FLIGHT

First Aero Weekly in the World.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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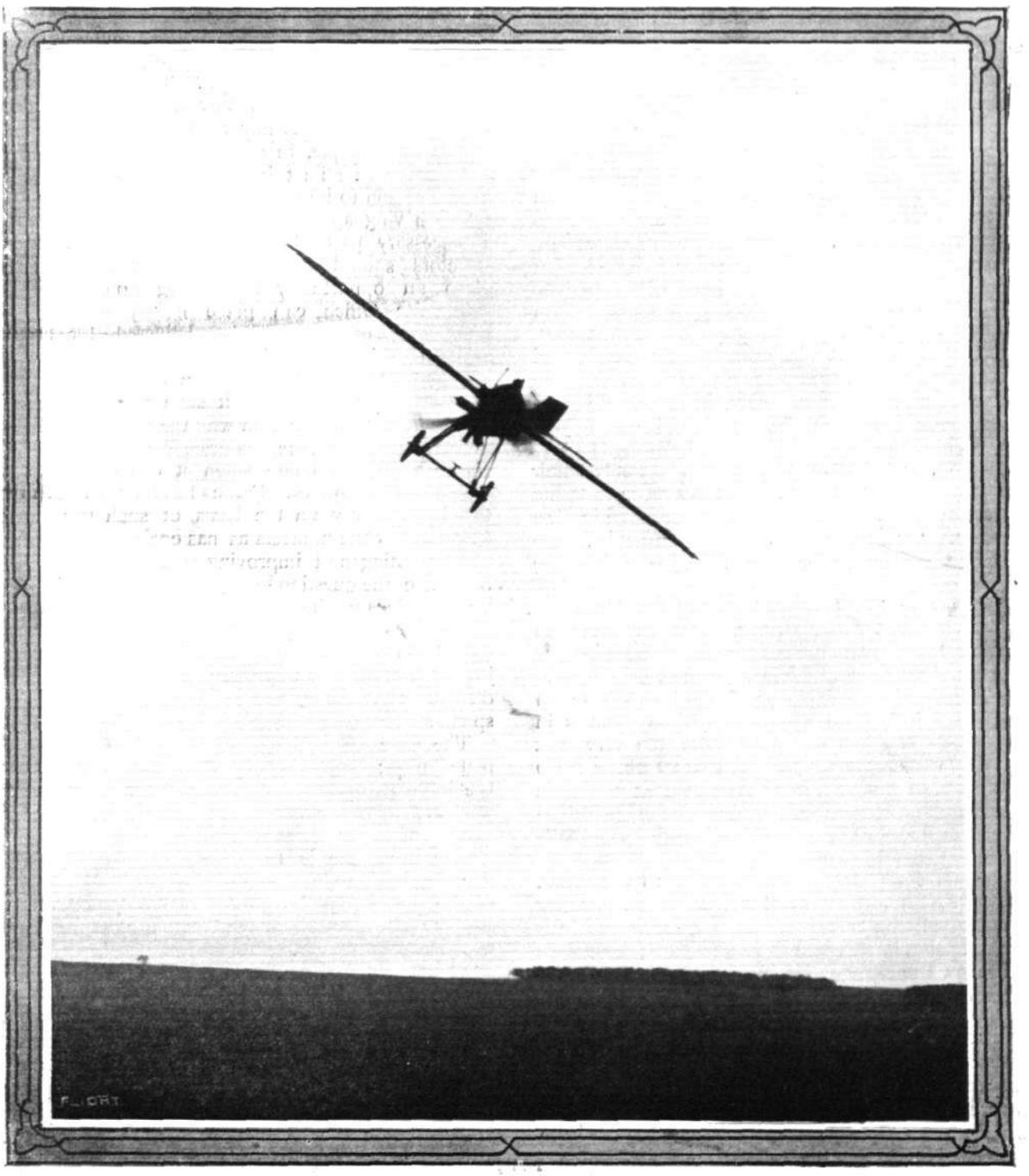


A fine bit of banking by Aubrun on a single-seater 80-h.p. Anzani-engined Deperdussin racer during the Rheims Military Aeroplane Competition.

EDITORIAL COMMENT.

The War Office and the British Constructor.

The topic of the hour is the attitude of the Government generally and that of the War Office in particular towards the British aeroplane constructor. Naturally, and quite justly, the whole British industry is up in arms against the policy, or the want of it, which appears to be expressly directed towards the encouragement of the foreigner and the disheartening of our own people. We have lived long enough to have learnt that this is the normal state of mind of the British official. Why it should be so we know not and we believe it is past finding out, but the cold hard fact remains that the prophet is without honour in his own country, and particularly if that country happen to be this England of ours. Naturally enough it happens sometimes that it is the best policy to buy from abroad. Often it may be the case that what we require can only be obtained extraneously. Then the path is quite clear. In other cases it may happen that we can do better by going outside and then, unless there exist circumstances of a special nature which make it advisable to sacrifice something in order to retain something else, the course is equally clear, and no blame can attach for the action taken in good faith and for the benefit of the national purse or efficiency. But in this matter of the military aeroplane neither of these circumstances arise. Our authorities are not driven across the Channel for the machines that are needed to place our fighting forces on an equality in the air with their rivals. We do not desire to labour the point, but in writing on the subject in the last issue of FLIGHT we gave a list of some half-dozen British constructors—from which, by-the-bye, we inadvertently omitted the name of Mr. S. F. Cody—who are fully capable of supplying all the wants of both Army and Navy if they were only given the proper opportunity and encouragement, and even that list could have been added to. Enough were named to point the argument that we have the facilities in the country, and that to go outside is not only unfair to those who have sunk money and brains in fostering the science of flight, but it is positively criminal in view of the future. This, we are fully aware, is strong language to use, but we maintain that it is fully justified by the facts of the case.

In his reply to Mr. Joynson-Hicks in the House of Commons recently, Col. Seely indicated that the proposed War Office trials of aeroplanes would be open to the constructors of the world. Well, we cannot say there are any fatal objections to that, for if we are to have an efficient aerial fleet, fit to meet its possible enemies in the stress of war, then we must have the very best obtainable, no matter what its origin or by whose brain evolved. But, as it is absolutely essential that we should create and foster a home industry, and encourage British brains against future contingencies, when we have finally decided upon that best, our military machines must be built down to their uttermost details in this country. There must be no question of Government orders going outside upon any pretence whatever. The proposition is an eminently simple one, and to give effect to it we have only to follow the example set by the French authorities in the recently concluded trials of aeroplanes for military use. These trials, as we know, were open to the constructors of the whole world, as competitors had not necessarily to be French subjects, but it was clearly laid down as a condition that the machines had to be entirely constructed in France.

It is understood that our own Government intends to offer certain cash prizes for approved types which may perform successfully in the Military Trials which are in contemplation. Now, we suggest that instead of simply offering cash as prizes, which may quite well be won and taken out of the country with no benefit to our own industry, the prizes should take the form of purchase of the winning machine for, let us say, £5,000, combined with an order for, say, five more machines at £2,000 each. These are arbitrary figures which may be subject to any amount of variation, but they suffice quite well to point the argument we desire. An additional and absolutely essential condition must be that all these machines shall be constructed, down to the last nut and bolt, in Great Britain.

It is inferred, if not actually alleged, by our military authorities that they are compelled to go to France to get the machines that are capable of complying with Army requirements. Our own constructors, as was very definitely stated at the meeting of manufacturers at the Royal Aero Club on Tuesday afternoon, strenuously differ from this point of view. They say that they are fully prepared to build any aeroplane, of any type required, and to pass any tests set by the War Office, equal, for example, in severity to those imposed by the French Army. That being so, there seems to be no logical reason to be seen of the plain man why, the War Office having apparently decided that the aeroplane is a necessary part of our future armaments, our constructors should not without any delay at all be given an opportunity of making good their claims. The War Office can place its orders for a given number of machines to be delivered, for argument's sake, in twelve months' time, subject to the passing of any reasonable tests which the authorities may think necessary to impose, but, if such a course be decided upon, there is every reason why the War Office should be prepared to pay a generous price for what it buys. The day has not yet come when it can expect to buy at "commercial" prices. France has built up a healthy and thriving industry on the basis of such generous State treatment of the pioneers as has enabled them to go on experimenting and improving until it would be a mere begging of the question to argue that the French aeroplane industry does not head the world. If it were not for the tremendous bearing which the aeroplane must of necessity have upon the warfare of the future, there would be no justification for thus impressing upon the authorities their duty of what looks very much like, at first sight, the spoon-feeding of an infant industry.

The State has helped in the establishment of armour-plate works; it has subsidized shipping companies; and the interests of national defence and preparedness for war and its consequences are taken into account in the placing of orders for ships and munitions of war. Then, if the aeroplane is to become a powerful factor in deciding the wars of the future, surely it should be a part of the national policy to create the facilities for their supply and maintenance, even supposing no such facilities were already to hand. We do not go to La Seyne for our battleships nor to Krupp for our guns, and a Government which showed symptoms of a disposition to go that way would not remain in office for a day. Between the two we cannot see the slightest difference, except that as yet the public does not appear to have awakened to a realisation of the fact that the aeroplane is likely in the next great war to prove almost as important as the Dreadnought.

A Study of Bird Flight

By Dr E.H.Hankin. M.A. DSc.

CHAPTER XXXV.—Lateral Stability.

AN important part of the control of an aeroplane is the means adopted for ensuring lateral stability. The question arises as to the nature of the method employed by birds for subserving this important adjunct to their powers of flight. I have seen a cheel gliding through the open doorway of a racket court. The doorway was too narrow for the expanded wings of the bird. As it reached the door, it smoothly and evenly canted itself over, glided through in this canted position, and then, when on the other side, presumably returned with equal smoothness to a level keel. I believe it is the perfection of the method employed by birds for thus canting to one side or the other that has prevented my discovering its nature with certainty by direct observation. Some facts to be described in the present chapter will, however, enable us to draw an inference as to the nature of the adjustment.

I have already proved that lateral stability is not due to rotation of the wing tips in opposite directions. It is conceivable that lateral stability might be maintained by rotation of the wings themselves in opposite directions. But it is not likely that birds would employ an adjustment in which both wings would be so placed as to tend to check speed ahead, and in which the lifting efficiency of both wings would be diminished. Further, such a suggestion is not supported by any facts of observation. It is possible to observe wing rotation. For instance, I recently saw a cheel, for a fraction of a second, rapidly rotate its wings to and fro, to a very small extent round their long axes. This happened while the bird was gliding and about to perch. Probably the movement was anticipatory to stop flapping, in which, as elsewhere proved, rotation of the wings occurs or can occur. Also the movement that I have described as "wing depression" has been shown to be due to wing rotation lasting slightly longer than in this instance.

That cheels can catch food thrown to them while they are gliding in the air, and that they always catch the food with their feet, never with their beaks, are well-known facts. The details of the extremely rapid movements by which they accomplish this feat are very difficult to observe. The fact that one can hardly help feeling amusement or astonishment at the agility of the bird adds to the difficulty of making the observation. It is my experience that the power of minute observation is greatly diminished if the consciousness is occupied by any feeling, whether of surprise, interest, or pleasure.

On one occasion I was able to follow the movements of cheels while catching food in the air. I was throwing pieces of bread to cheels from the terrace outside my house. This terrace has a height of about 15 ft. from the ground. If the cheels were gliding in front of me, they had to make a sudden turn and a dive in order to catch the bread. This happened at first. Then, as if the cheels knew what I was doing, they kept gliding in the air behind me, so that on swooping they travelled in the same direction as the piece of bread, and could catch it more easily. An example of catching a piece of bread after a difficult turn is the following:—

October 13th, 1910.—At 4.15.—A cheel was gliding past in front of me about 5 ft. above my level as I threw a piece of bread. When the cheel had reached a point about 10 ft. to the left of the position where the piece of bread was falling, it rotated round its transverse axis through about 90°. At the end of this rotation the longitudinal axis of the bird was vertical instead of being horizontal. That is to say, the beak pointed vertically upwards and the tail downwards. Then the cheel rotated through 180° round its dorso-ventral axis. That is to say, after making this second rotation, its beak pointed downwards and its tail upwards. This movement was quicker than the transverse-axis rotation. I could see that the wings were flexed during this second rotation. While it was making these rotations a small feather dropped off. The cheel then swooped downwards, and caught the falling piece of bread at a time when the latter had reached a point about 2 ft. from the ground. While swooping the wings were flexed and there was no flapping. As usual, the cheel caught the bread in its claws, not in its beak. The rotation round the transverse axis was presumably due to advancing of the wings, as observed in other cases. At the moment of catching the bread the cheel began gliding upwards (in a curve of long radius). As observed in other cases, this gradual change of course must have been due to placing the wings in the dihedrally-up position. The bird glided upwards, and about its original height. Then, as usually occurs, the claws were brought forward and the head bent down and backwards, as the bird eat the bread without interruption of its gliding flight. (*See* Fig. 56.)

In the above account I have described two methods of producing rotation round the transverse axis. The first, by advancing the wings, causes a sudden rotation and is associated with loss of speed ahead. That is to say, speed ahead is changed into speed feet foremost. This feet-foremost speed obviously was the source of the energy used for rotation round the dorso-ventral axis, and also was a part source of the energy required for the swoop, whose speed was greater than could be accounted for by gravity alone. The second method of producing rotation round the transverse axis was by placing the wings in a dihedrally-up position. This method causes a more gradual turn, and is used in cases in which speed ahead is maintained.

Recently I was with a friend at Jharna Nullah, and within a few minutes we saw two cases in which a cheel dropped a piece of meat and caught it before it reached the ground. In each case the cheel was being chased by other birds. Apparently to drop a piece of food and again catch it in this way is a method used by cheels to baffle pursuit.

Cheels when swooping steeply downwards sometimes show to-and-fro rotations of large range round the longitudinal axis. For instance:—

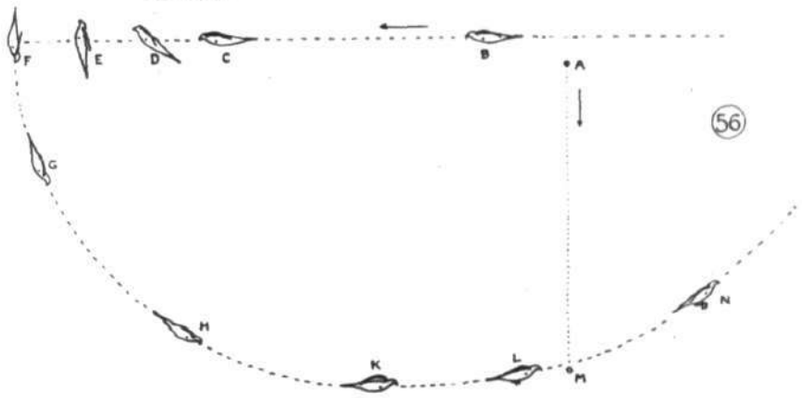


Fig. 56.—Movements of a cheel when catching food thrown to it in the air. A, a piece of bread falling while a cheel is gliding past at B. At C the cheel advances its wings. In consequence the bird rotates through 90° round its transverse axis, as shown at D and E. The cheel then rotated 180° round its dorso-ventral axis, as shown at F. The wings are now flexed and secondaries relaxed. The bird then swoops down, as shown at G and H, gradually extending its wings and increasing their camber. At K and L the wings are shown in the dihedrally-up position. This adjustment causes gradual rotation round the transverse axis. The bird consequently glides upwards, catching the bread, M, in its claws as it passes. The cheel carried out these manœuvres while the bread was falling from A to M, a distance of about 15 feet.

October 17th, 1910.—3.30.—When feeding my captive adjutant I threw some pieces of meat into the air. Some cheels swooping for these showed rapid to-and-fro oscillations round the longitudinal axis. Two of them after checking speed ahead by advancing wings showed rapid rotation round the dorso-ventral axis. During this rotation the wings were only slightly flexed.

According to my recollection of this incident, the adjutant was threatening the cheels by snapping its beak at them. In certain cases, therefore, the cheels had occasion to check speed suddenly

by advancing their wings. I recollect one of these cheels swooping towards a piece of meat, and oscillating round its longitudinal axis. As the meat had reached the ground and as the adjutant was walking up to it, the cheel changed its wing, rotated round its transverse axis to check speed, and glided away.

By the term "oscillation round the longitudinal axis," I mean that the bird became strongly canted over to one side, returned to a level keel, and then became canted in the other direction. There can be no doubt that this canting to one side or the other was not due to atmospheric irregularities. It must have been due to some more or less voluntary adjustment. The question arises—what was its nature?

In the above case, longitudinal-axis oscillation preceded the advancing of both wings. So far as I am aware similar longitudinal-axis oscillation only occurs if both wings are about to be advanced. For instance, cheels when playing together in the air often swoop downwards for short distances, and in so doing show the oscillation in question. Several times I have noticed such oscillations in the case of cheels swooping downwards in order to perch. In these cases the wings were placed dihedrally upwards to change the direction of the swoop. This was immediately followed by advancing to check speed. In each of these cases it seemed to me that the wing that became uppermost during the canting had been advanced. But this was merely an impression, not a definite observation.

On the other hand, so far as my experience goes, if the swoop is not going to be followed by advancing the wings no oscillation round the longitudinal axis occurs. For instance, if a cheel is swooping downwards to snatch a piece of food from the ground, it does not check its course by advancing the wings, but changes the direction of its swoop by placing the wings in a dihedrally-up position. When thus swooping downwards there is no appearance of lateral instability. Further, cheels and eagles sometimes swoop downwards and glide up again in one long curve without checking speed. This change of course is produced by varying the dihedral angle of the wings, and again no sign of lateral instability can be observed.

Thus it appears that longitudinal-axis oscillations only occur if the bird is about to advance both wings. That is to say, it is probable that the oscillation is due to some "anticipatory movement"; that is to say, to a movement anticipatory to advancing both wings. Obviously the movement cannot have been an advancing of both wings. It is doubtful whether increased flexing could have produced the effect observed, unless it was of such an extent as to be noticeable. The range of longitudinal-axis oscillation observed may have been as much as 60° or 80°. Further, flexing would not have been a movement of an anticipatory nature.

Let us consider whether advancing of the two wings alternately could have produced the effect observed.

I have already shown that advancing of both wings causes rotation upwards round the transverse axis. If both wings are advanced, their front edges and the head end of the bird are raised. At the same time the tail drops. Supposing only one wing is advanced, then the front edge of this wing will be raised. The front edge of the other wing is not raised. That is to say, the bird becomes canted.

Obviously, if canting can be produced by advancing one wing, canting in the same direction will also be produced by retiring the other wing. Possibly the following observation is an example of such an adjustment:—

> November 16th, 1910.—At Jharna Nullah. 10.40.—A brown vulture flapping a few feet over my head showed a retirement of the inside wing. It was flying on a curved course.

I suggest that the movement observed was an adjustment for canting. Possibly the movement was accompanied by increased flexing, that is to say, by an adjustment for steering.

It is regrettable that so important a conclusion is based merely on inference and not on sufficient or certain observation. My suggestion is that a bird, if in gliding flight, when steering to one side, rotates one wing or wing tip, while at the same time the wing is retired, the rotation produces steering, and the retirement produces the requisite amount of canting. The implication is that lateral stability is, in part at least, maintained by advancing or retiring of one wing. This suggested method is obviously of great simplicity and one not involving any large decrease in wing efficiency.

It might be objected that the steering movements already described are in themselves sufficient to produce canting and that no further method is required. For instance, if in soarable air, a bird rotates a wing or wing tip, the angle of incidence is altered; the air ceases to drive the wing ahead. Its supporting power therefore diminishes. The bird, therefore, may become canted. Without pausing to discuss how far such an explanation can apply to unsoarable air, it can definitely be asserted that it will not meet the case of the cheel.

The cheel shows far greater agility when in the air than other birds with which I am acquainted. I was once watching a vulture in flap-gliding flight with a piece of meat in its claws. A cheel swooped down under the vulture, and as it passed snatched away the meat. From my knowledge of the habits of the cheel, I have little doubt that the cheel seized the meat in its claws. If so, the cheel must have suddenly rotated round its long axis through a very large angle. On other occasions I have seen a cheel gliding for a fraction of a second upside down. Twice I have seen a cheel gliding in the air catch another cheel by the claws. The two birds remained hanging on to each other by the claws for an appreciable time. The under bird was upside down. In each of these cases it was impossible to see how the cheel reached its unusual position, but there can be little doubt that sudden rotations round the longitudinal axis occurred.

In vultures, slight steering movements can occur without canting. In cheels large amounts of canting can occur without steering.

My suggestion as to the means employed for maintaining lateral stability is based on instances in which oscillations are produced by a presumed advancing of one wing. A further proof of the correctness of the suggestion would be obtained if a case could be brought forward in which longitudinal-axis oscillation was caused by a retirement of one wing. As a possible instance of such oscillation, the following observations may be quoted:—

> August 21st, 1911.—On Tundla Road, near Jharna Nullah. At 6.30 p.m.—A large number of adjutants, during more than half-an-hour, were flap-gliding in the direction of the river (presumably to spend the night on a sandbank). They travelled at a height of less than 10 metres above the earth. The periods of flapping and gliding were each of only a few seconds' duration. No vertical flaps occurred before the glides. In all cases observed—probably more than 50 birds—an increase in the angle of incidence was seen to occur during each glide. The angle of incidence was at a minimum immediately after the flapping. It gradually, and, I think, continually, increased to reach its maximum just before the next period of flapping. This was easily seen. In three cases, in addition, a gradual increase in the dihedrally-up angle of the wings was seen to take place. In one case I saw slight oscillation round the longitudinal axis, apparently as a single to-and-fro movement, immediately after flapping. The range of movement of the wing tip was certainly less than 2 ins., and may have been about an inch. Previously, at Jharna Nullah, I had observed this oscillation in other species of birds. It is difficult to see. During the down stroke the adjutant makes a whistling, swishing sound, reminding one of the sound made by telegraph wires vibrating in a wind. This sound varies in amount. In two cases I was also able to hear a faint whistling sound during the gliding period. This resembled the sound one would expect to be made by air rushing into or out of a cavity. (I have frequently heard this "glide-whistle" since. It may possibly have to do with change of volume of the air sacs.)

In Chapter IX, I stated that it is probable that, in gliding, height is maintained at the expense of speed. I further suggested that this result is obtained by a gradual increase in the angle of incidence. It is satisfactory that, at length, I am able to bring forward the above observation, which amounts to direct evidence of the correctness of my suggestion.

But my purpose in noting the above observation is to discuss the probable meaning of the slight longitudinal-axis oscillation that immediately succeeded the flapping. I have seen this in other species of birds on two or three other occasions. As has already been shown, in flapping flight of the larger birds the wings are advanced. Therefore at the moment of the change from flapping to gliding, the wings have to be retired. If it chances that one wing is retired at a greater rate than the other, it is conceivable that a small lateral oscillation might be produced, supposing my view is correct as to the means employed for producing lateral stability. If this explanation were correct then one would expect this oscillation to be observed always, or at least frequently. But though I have often looked for it, I have only succeeded in seeing it on two or three occasions. Therefore it is necessary to entertain an alternative theory, namely, that the oscillation in question was due to some unusual atmospheric condition.

I am unable to decide between these two possibilities for the following curious reason. It is well known that, in reasoning, a preconceived idea has a very unwelcome influence in aiding one in coming too quickly to a conclusion. My experience is that, in observing, a preconceived idea has an unwelcome influence in the opposite direction, namely, that it may inhibit one's power of observation. At the beginning of this chapter I stated that if the consciousness is occupied by any feeling of surprise or interest, the power of making difficult observations is diminished. My experience is that, in addition, an expectation of what one is about to see may also inhibit the power of observing. This statement

applies to observation of minute movements lasting only a fraction of a second.

Originally I used frequently to enter in my notes that a particular observation was quite unexpected. I know now that this is more or less the rule. I may make a difficult observation on two or three days running. Then, as soon as I have understood that the observation has some theoretical interest, and make an attempt to repeat my observation, I find that I am incapable of seeing the movement. My power of recognising the movement only returns after the lapse of several months. Hence in the case of the oscillation under discussion, it being a movement very difficult to see, my failure to see it may be due to the psychical inhibition above described. Hence I am unable to decide between the two suggested theories, and further have a sort of uneasy consciousness that an ampler knowledge of the subject might lead to yet a third view of the nature of the movement.

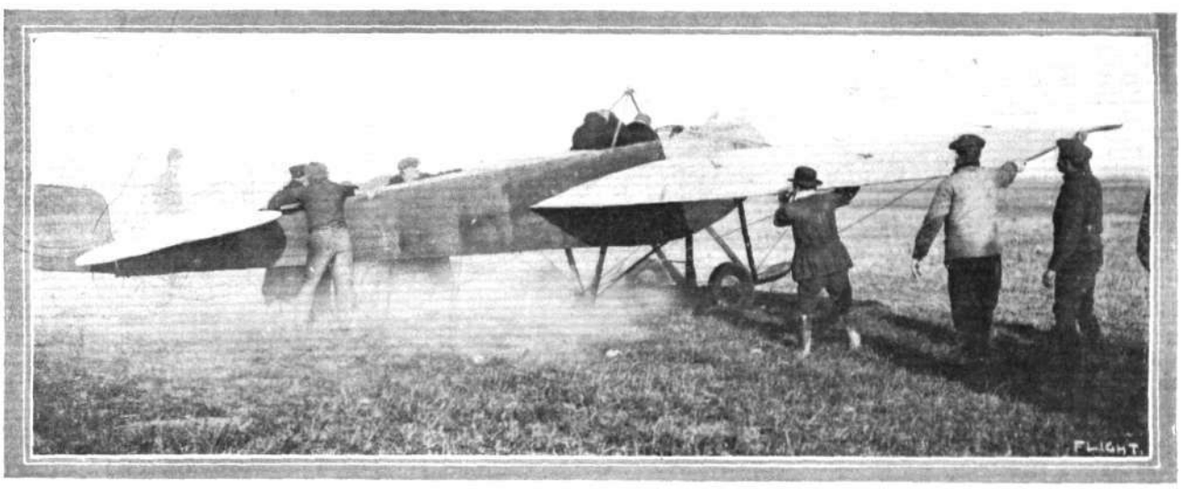
The common dove frequently flaps nearly vertically upwards to a height of 5 to 10 metres above the tree tops. Then it glides downwards in long sweeping curves with wings dihedrally down and tail expanded. Twice I have seen this dove advance the inside wing during or after a turn, as if with the object of preventing canting. This dove habitually turns (in the horizontal plane) in a curve of long radius with scarcely any canting.

I doubt whether the means employed for producing canting will ever be discovered by direct observation in the case of such expert flyers as the vulture and the chael. It is possible that the adjustment may be seen in the case of some bird of clumsy flight.

(To be continued.)

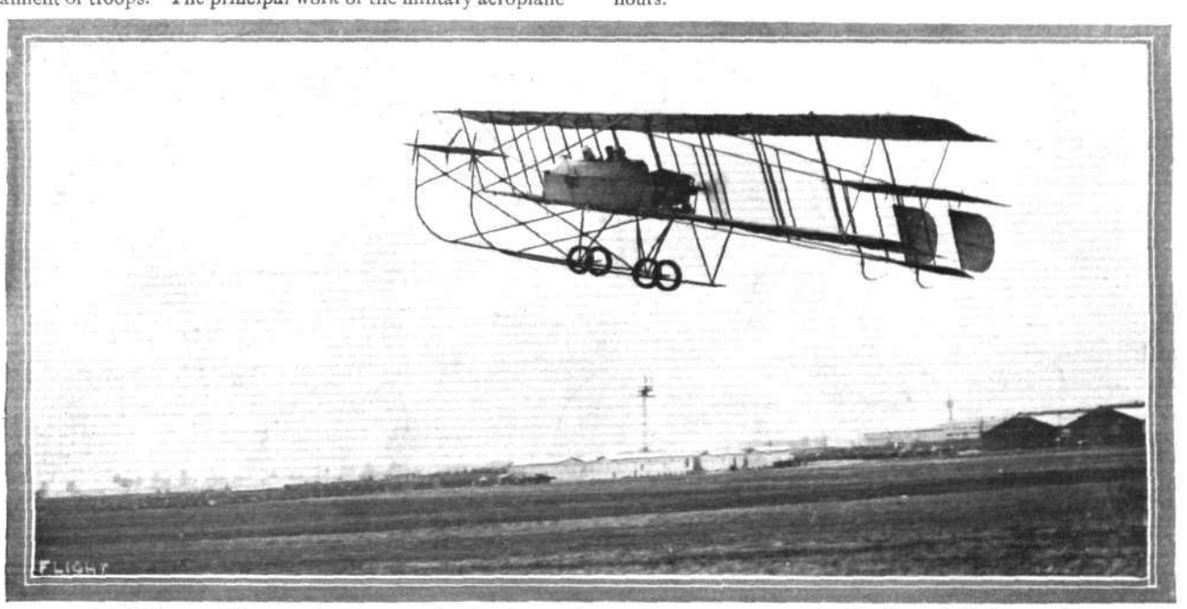
THE MILITARY ASPECT OF AVIATION.

SOME instructive comments on the use of aeroplanes from a military point of view were offered by Capt. C. J. Burke in a lecture at the Royal United Service Institution on the 15th inst. One the use of aeroplanes and airships in manœuvres was, as was reconnaisance. To-day an average type of machine could be depended upon to make a successful flight of 180 miles on 80 per cent. of the days of the year. Not only so, but the early hours of the morning and those just preceding nightfall were the most

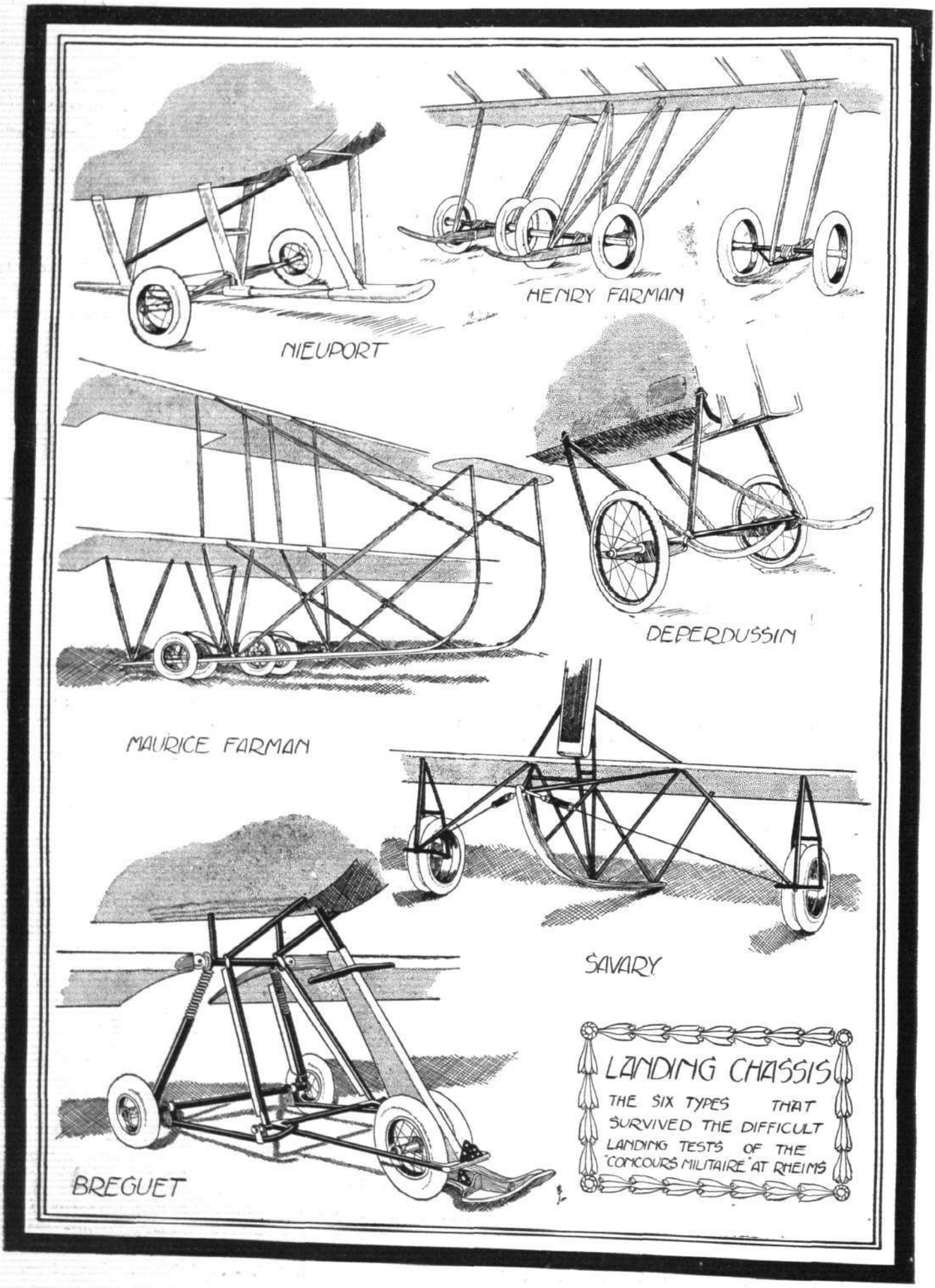


Mr. Weymann just before the signal to start from Rheims on his Nieuport monoplane for the final cross-country speed test in the Military Aviation Contest, in which he has been adjudged the premier position, he having covered the 300 kiloms. in the net time of 2 hrs. 34 mins.

he pointed out, that the ordinary topographical features, which at one time used to play a great part in the conduct of war, had now largely lost their significance. Forests, hills and streams no longer constituted insuperable obstacles or impenetrable screens for the concealment of troops. The principal work of the military aeroplane suitable times for flying, and also the most decisive periods of the day from a military point of view. A commander could then rely on despatching a staff officer on an aeroplane to a point 60 miles away and receiving reliable information within three hours.



Barra on his Maurice Farman biplane in the final speed test in connection with the French Military Competition.


HENRY FARMAN
NIEUPORT
DEPERDUSSIN
MAURICE FARMAN
SAVARY
BREGUET
LANDING CHASSIS
THE SIX TYPES THAT SURVIVED THE DIFFICULT LANDING TESTS OF THE "CONCOURS MILITAIRE" AT RHEIMS

On the outbreak of war it was to be expected that the aeroplanes of both sides would endeavour to reconnoitre and to pick up all the information possible about the enemy's concentration areas. It was probable that the first day would see them in collision, as it was vital to success that the enemy should be deprived of the use of aeroplanes as early as possible in the campaign.

It appeared probable that the passengers in the aeroplanes would carry weapons of precision, which they would use against their adversaries, and it might even be necessary to have recourse to wrecking the hostile aeroplane by the "back-wash" of the propeller, although that was a very risky proceeding.

There would be a struggle for the supremacy of the air, and we might assume that a commander, whose aeroplanes had defeated their adversaries, could hope for an extraordinary amount of clear and accurate information as to his enemy's dispositions for, and intentions of, battle.

There were two schools of thought with regard to strategy and the areoplane would prove of greater benefit to what was known as the French system, which consists of preliminary manœuvring, while retaining a large reserve to bring into action at the most propitious moment. In the German system—which consisted of a bold advance, with an enveloping attack—aeroplanes could only assist in the execution. One important result following the use of aeroplanes would be to release the advance guard from the duty of gaining information, thus making it available for other purposes.

In a discussion which followed, Colonel Hunter Weston, of the War Office General Staff, said the attention of the General Staff was being most carefully engaged on the subject of aeroplanes. It was essential to employ only trained military observers, as the information gathered by civilians was, generally speaking, valueless. He was inclined to believe that the aeroplane was not likely to effect a great revolution in methods of warfare. Rather, the result would be a slow modification of the method, as it would probably be found that the aerial forces of one army would more or less balance those of the opposing army. Lieut. Boothby, R.N., also took part in the discussion, and urged the use of airships with light artillery or pneumatic guns for offensive use against aeroplanes.

AEROPLANES IN WAR.

IN a very graphic word picture of the progress of hostilities at Tripoli, by the War Correspondent of the *Daily Telegraph*, he makes striking reference to the importance of aeroplanes in war in the following passage :—

"WANTED : AEROPLANES, &c.

"There should not be any time lost either in the Army or the Navy of the United Kingdom in developing and improving the aeroplane. The yellow German model captive balloon has been sent up but thrice here, and, from what can be seen and judged, its usefulness is but that of a lame and blind man sent upon a mission requiring smart mobility and clear vision. The 16 aeroplanes here have been of the greatest service, and I am so thorough a believer in the qualities of our own people that I think, in their hands, still better results could have been obtained. I have seen them here, monoplanes and biplanes, flying about freely and safely in breezes blowing well over 20 miles an hour. A jolly Jack of the Royal Navy, rushing along 60 to 80 miles an hour upon a Nieuport, at a height of 1,000 ft. to 2,000 ft., would surely prove a far better scout than the fleetest cruiser in the Royal Navy. The only needed public plea at the instant is that whilst this business of aviation is still in its infancy, and the sense of sure balance has yet to come, all comers should be asked to help in the new corps of flying men. I mean, don't let the 'experts' be those entered and born in the purple of the regular services, at least for some years to come. Train them to observe aright ; that any man can learn.

"I saw yesterday—it was shown me by an Italian officer—one of the new aeroplane bombs—that is, the missiles to be thrown and which have been used by the aviators in Tripoli. It is of cylindrical construction, about 3½ ins. in diameter, and made of tough steel. The fuse is operated either by time or percussion. The missile is about the size and shape of a big orange, with a loading plug below and the fuse on top.

Fischer upon his completion, on the Henry Farman biplane, of the final cross-country speed test in the French Military Competition, being welcomed by his wife, and personally congratulated upon his splendid performance by Mr. Henry Farman.

Two side views of the Military Henry Farman biplanes which participated in the recent French Military Competitions at Rheims.

"I ask General Henniker-Major, of the 1st London Division Territorials, to read this, and hurry up the formation of his T. Aeroplane Corps, and secure young Hamel therein. There is no question of Saturday or Sunday shooting involved in this.

BRITISH NOTES OF THE WEEK.

Royal Aero Club Dinner.

THE Annual Dinner of the Royal Aero Club, at which the Manville and British Empire Michelin Cups will be presented to the winners, Mr. C. H. Pixton and Mr. S. F. Cody respectively, it should be noted will be held at the Royal Automobile Club, Pall Mall, S.W., on Thursday, December 14. Full particulars will be found under the Official Notices of the Club.

"The Efficiency of the Aeroplane."

AT the third ordinary meeting of the Royal Society of Arts, on Wednesday evening next, the 29th inst., a paper will be read on the above subject by Mr. A. E. Berriman. The chair will be taken at 8 o'clock by Mr. Dugald Clark, M.I.C.E., F.R.S. Tickets may be obtained from the Royal Society of Arts, John Street, Adelphi.

An Aeronaut's Tragedy.

THE American aeronautical world, has lost a valuable friend in Mr. Edgar W. Mix, who apparently jumped overboard from the cross-Channel steamer "Pas de Calais" while crossing from Dover on Sunday night when returning to Paris after meeting the Deputation of American Automobile Engineers visiting England. Mr. Mix was well known in French sporting circles, but sprang into fame by winning the Gordon-Bennett Balloon Cup in 1909, for which he entered, as the only American representative, practically at the last moment. He acted as the representative of the American Aero Club in the Fédération Aéronautique Internationale and was to have gone to Rome for the Conference which meets this week-end.

Mr. Cody Starts a School.

WE understand that with the approval of the War Office Mr. S. F. Cody has started a school at Laffan's Plain for the instruction of military officers.

Mr. Cody and the French Tests.

IN a letter to the Press, referring to the suggestion by the Government that it is proposed to purchase aeroplanes which have passed the French tests, Mr. S. F. Cody says that he would be pleased to put his machine through a similar series of tests under official observation. Should he succeed in passing the test he would not expect any prize, while, on the other hand, if he failed he would be prepared to pay for the observer's waste of time.

A 90-Mile Trip by Mr. Moorhouse.

ON Wednesday afternoon Mr. Moorhouse left Huntingdon, with the intention of flying to Hendon and back. Owing to fog, however, he decided to turn back at Hitchin, by which time he was about 8,000 ft. up. The trip of just on 90 miles was made in 83 mins.

The Naval Airship Inquiry.

QUESTIONED in the House of Commons by Mr. Burgoyne, on Tuesday, Mr. Churchill said it is not proposed to publish the minutes of the court of inquiry on the Naval airship disaster. The inquiry was held solely to determine whether any blame was attributable to any officers and men in the Royal Navy. The whole matter is still under consideration by the Admiralty. The builders were solely responsible for the structural strength of the vessel, and so the Admiralty constructors were not called upon to express approval or otherwise of the form of girder used.

"Another matter is that the Italians' handy, small-sized motors are doing even better than I anticipated, and Colonel Keans will do well, for general purposes, to curtail the size of his motor transport vehicle to half its present dimensions in the T.A.S.C. line."

The Viale Engine in England.

THE Viale-engined Avro is quite now *au point*, and Raynham, in spite of a high and gusty wind during the first trial trip on Monday got up a speed of well over 50 miles an hour. In view of the fact that during the preliminary run the speed of the engine was 1,200 revolutions per minute, this result was not unexpected. Both Mr. A. V. Roe and Mr. Maurice Ducrocq (the concessionaire for Great Britain of the Viale engine) were very pleased with this initial success.

To Artists and Draughtsmen.

THE editorial departments of FLIGHT and *Auto.* have openings on the artists' staff for clever designers and freehand engineering draughtsmen. Applications should be addressed to the Editor, at 44, St. Martin's Lane, with particulars of qualifications.

Mr. Valentine at Harrogate.

ON the 16th inst., Mr. James Valentine paid a visit to Harrogate in order to receive from the Local Chamber of Trades a beautiful solid silver tea service and bowl, which he won as the British aviator to make the fastest time between Hendon and Harrogate in the *Daily Mail* race. After the presentation had been made by the Mayor, Councillor J. S. Rowntree, the company present were entertained with a Whist Drive and Dance.

"Aviation and the Aero Model."

THERE was a good attendance at the Museum Rooms, Ipswich, on the 16th inst., to hear a lecture by Mr. R. P. Grimmer, General Secretary to the British Federation of School Aero Clubs, on the above subject. After outlining the history of flying, Mr. Grimmer pointed out the great amount of knowledge which could be obtained by the flying of kites and models, and also by practice with a glider. At the close of the lecture, which was illustrated by a large number of lantern slides, Mr. R. F. Mann gave practical demonstrations with some of his models.

Mr. Grimmer is prepared to arrange lectures in any part of the country.

An Aeroplane Glue.

WE learn from the General Aviation Contractors, Ltd., of 30, Regent Street, London, S.W., that they have been appointed sole concessionaires for the S.C. Aero Glue, which is specially prepared by Messrs. S. Chicot, of Paris, and used by such aeroplane manufactures as Blériot, Farman, Deperdussin, Morane, Sommer, Caudron, &c.

MODEL AWARDS AT GLASGOW EXHIBITION.

As a result of the judging carried out by Mr. G. P. Currie, duly recommended by the S.Ae.S. Model Aero Club, the various models exhibited at the German Exhibition were placed in the following order of merit:—

Model.	Exhibitor.	Points.
Hanriot ...	Mr. Myles, Dundee Aero Club	88
Blériot ...	Messrs. Donaldson and Mills, S.Ae.S. Model Aero Club	88
Do. ...	H. K. Wheater, Berkhampstead	60
Short-Wright	F. Bowling, Hornsey, London	57
Wright ...	J. H. Alexander, Edinburgh	57
Blériot ...	Do. do.	55
Do. ...	R. G. Leckie	50
Do. ...	S. Malvesi	47

The following extract is taken from the Judge's Report:—"The Hanriot of Mr. Myles is a well-finished machine, the controls being fully articulated, the planes exceptionally well covered, the fuselage well formed, and the propeller built in sections. The Blériot of Messrs. Donaldson and Mills is very well finished and shows careful workmanship, the controls being fully articulated and the chassis carefully built. There is a scale motor of exceptional workmanship fitted. The other models mentioned, where points have not been given, are specially commended, and mention may be made of the Short-Wright, shown by Mr. Bowling, which shows the maker to have been very painstaking."

After considering the above report, the Sports and Exhibitions Committee of the Scottish Aeronautical Society decided to add together the first and second prizes and divide them between Mr. Myles and Messrs. Donaldson and Mills.

FROM THE BRITISH FLYING GROUNDS.

Barrhead Aerodrome.

MR. HARRY TATE, the well-known comedian, has joined the school, and had lessons nearly every day during the week. Appropriately, he was appearing in his flying sketch at the Glasgow Empire. On Friday he had so far progressed as to do a few short straights during a lull in the extremely anti-aviatic weather. Mr. Tate has arranged to continue his lessons on his next visit in January, but will spend every possible Sunday in Barrhead that his engagements permit. Mrs. Lucking took her first rolling practices on Friday and Saturday, and shows excellent promise. She should easily be "No. 3"; Capt. Forsyth and Lieut. Warrand are both making excellent progress. The weather seems to have dropped a bit, and a good week's work is expected next week. The Caledonia monoplane, Blériot-type, is a great success, and big things are expected of it.

Brooklands Aerodrome.

THE weather has at Brooklands, as elsewhere, been beyond words. Strong winds have prevailed, while the rain has been practically incessant.

On Wednesday Kemp tried the repaired Vickers, but only made a couple of straights flights as the wind was very gusty. Gordon Bell was out for a couple of circuits on the Deperdussin, and Pizey had the Bristol out for a few minutes.

The Martin-Handasyde was the only machine flying on Thursday, when T. O. M. Sopwith did one circuit and a few straight flights.

Friday was a very bad day. Raynham tried the Viale Avro for a few short flights. The balance of the machine seems distinctly good.

On Saturday Fleming was up on the Bristol with Major Benwell, and afterwards Capt. Gordon.

Sunday was a blank day.

On Monday Pizey carried Capt. Gordon, the latter afterwards making some straight flights. Major Benwell was also doing straights, and Fleming was up with Warren. Pizey took up Mr. Mesham, and Lawrence was flying a few circuits in excellent style.

The Deperdussin School was in full swing. Chataway was making circuits, and Garne, Sabelli, and Baldwin straight flights.

The Flanders monoplane was in the air, piloted by Kemp, who took up two or three passengers. Spencer carried as passenger Humphrey Hitchcock, his new pupil.

On Tuesday Kemp had the Vickers up for some straight flights. The Deperdussin school was again in full swing, and Spencer was flying with his pupil. Gordon Bell made a few circuits on the Deperdussin racer, and Sopwith flew some excellent circuits on the Martin-Hardasyde. It flies excellently, and is very fast. Pizey was up with Warren, and Capt. Gordon flew a couple of circuits in excellent style. Lawrence made a fine flight at 1,000 ft., rising very quickly.

Brighton-Shoreham Aerodrome.

ON Wednesday of last week M. Chanter and Co.'s school machines arrived on the ground, and were safely housed in their hangars. Thursday saw the work of assembling being carried forward, and on Tuesday school operations were commenced.

Lieut. J. C. Porte gave a splendid demonstration flight on Tuesday with his two-seater Deperdussin monoplane, coming to earth with a magnificent *vol plané*, after which he took Mr. R. Preston, of Brighton, for a passenger trip.

Filey School (Blackburn Aeroplane Co.).

OWING to the weather being very bad during the past week very little flying has been going on. On Saturday, however, Oxley was out doing some good flights on the big passenger machine fitted with the Renault motor, taking pupils out as passengers. This machine behaved perfectly and went very steadily.

Lanark Aerodrome, Lanark, N.B.

FLYING, up to Thursday last week, was rendered impracticable owing to the stormy weather which was prevalent during the period. However, a lot of work was got through in the hangar, and a pair of spare Blériot wings are nearly finished. The weather on Thursday was splendid for air work, and an excellent day's flying was done. Warren and Jackson each took turns on the school Blériot, Warren doing circles and Jackson half-circles. Warren shows excellent knowledge of his machine and engine, he being an engineer by trade, and there is every indication that he will turn out a very good flyer.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Owing to the inclement weather which has been prevailing since Tuesday of last week, as in other parts of the country, very little flying has taken place, all energies being directed on the work proceeding in the hangars.

Despite a 25-mile an hour wind which was blowing on Wednesday last, Lieut. Parke had the Gnome-Farman brought out soon after lunch, and made several circuits round the Aerodrome.

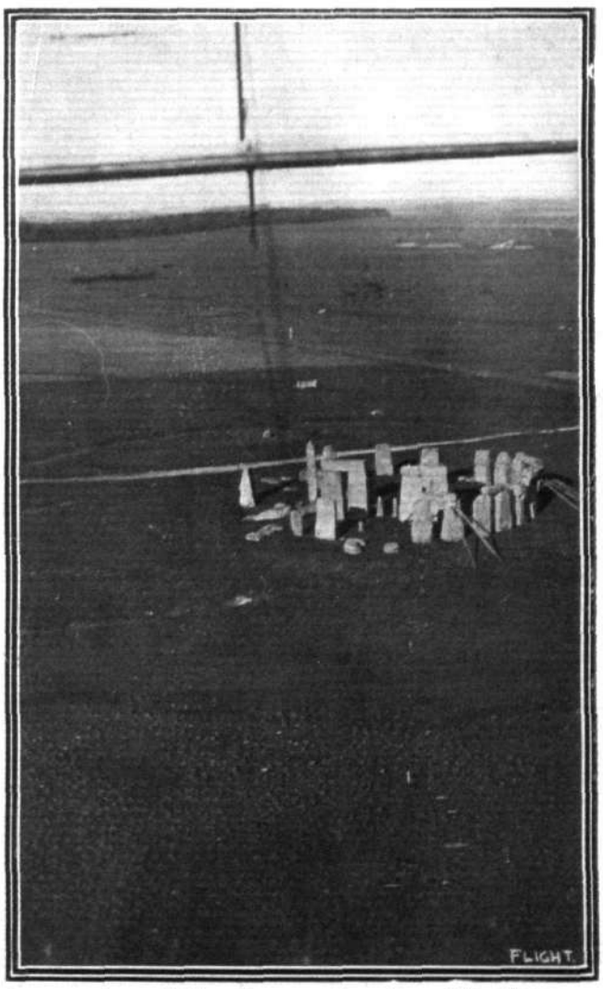
On Wednesday the weather turned out cold but fine, and there being little wind in the early morning both the pupils, Fowler and Raphaite, had each a spell of useful practice on the school machine. Later on in the morning Clement Greswell, the late chief pilot of the Grahame-White school, called to confer on a matter of business with Mr. R. T. Gates, the manager, and to revive his old-time connection with the firm took a flight on the Gnome-Farman with a passenger. The wind had in the meantime risen to a speed of about 20 miles an hour, and although consequently the conditions were by no means ideal, Greswell demonstrated the fact that he had lost none of his old prowess in controlling a biplane in a wind.

In the workshops the assembling of a Sommer biplane is in progress, which, fitted with a Gnome engine will be devoted to the use of the pupils.

Valkyrie School.—Continuous high winds have prevented any flying during the past week. On Tuesday morning this week a chance occurred and Capt. Loraine brought out the Gnome-Valkyrie racer in spite of a strong wind. He managed to put in twenty minutes good practice, flying circuits in excellent style.

Salisbury Plain.

Air Battalion.—Wednesday of last week saw several officers of the Air Battalion returning from Farnborough, Lieut. Reynolds, R.E., and Lieut. Conner, R.F.A., bringing by road a Renault-engined monoplane, which is to be flown by Lieut. Hindes. A Gnome-engined Nieuport has also arrived. It is to be flown by Barrington



A new view of Stonehenge, taken from Mr. H. Busteed's "Bristol" biplane, by Mr. Dacre, a pupil, when flying as passenger.

Kennett, who is at present receiving instruction in France. Lieut. Conner is to fly a Blériot monoplane. Capt. Fulton has returned from France. As the regular machines at Salisbury were all packed up before the officers went away to Farnborough it will take some time to re-erect them, and get the engines tuned up, but as soon as this is done there should be plenty of air-work. The staff of the Air Battalion is stationed at Bulford Barracks. On Monday last one of the biplanes was out, and was piloted alternately by Capt. Fulton, Lieut. Reynolds, and Lieut. Conner, and on Tuesday Capt. Fulton was taken by Mr. Prier for a trip at a height of about 1,000 ft. on a Bristol two-seater monoplane.

Bristol School.—The wind has been master of the situation for the greater part of the past week, and very little outdoor work has been possible. However, as is always the case in stormy weather, a good deal of useful tuition has been carried out in the sheds, for the Bristol pupils are always well instructed in the practice of dismounting, assembling, repairing, and adjusting their machines.

On Saturday morning, Jullerot went up on No. 66, which had just arrived and had been assembled on the Plain. He found the machine to be working perfectly on its maiden trip, no further adjustments being necessary, which shows that the high standard of excellence which has been characteristic of Bristol construction from the outset, is being well maintained. Hotchkiss then took Lieut. G. T. Porter, R.G.A., who has just joined the school, for a flight on machine No. 43, after which Jullerot took the same pupil for a tuition flight on No. 66.

The flying was carried out over a thick fog, a continuous rain falling the whole of the time, which made things very trying. This was all the work that it was possible to do all day, as in the afternoon a strong wind sprang up, which, although removing one obstacle, effectively took its place.

The dozen or so officers and civilian pupils, who are still at the Salisbury Plain school, are, for the most part ready to pass their tests, and are only awaiting an improvement in the weather to qualify as fully-fledged flyers.

Monday morning saw no improvement in the weather, but towards the evening Jullerot went up for a trial on No. 66, and found a fair breeze blowing. Mr. Smith Barry made two solo flights in excellent style; Mr. Dacre also made two flights, giving evidence of the high state of proficiency he has reached during his short stay at the school. Busteed then made a flight with Lieut. Borton, remaining up for about 25 mins., and making several very wide circuits.

THE ANNUAL DINNER will take place at the ROYAL AUTOMOBILE CLUB, Pall Mall, S.W. (by kind permission), on THURSDAY, DECEMBER 14th, 1911, at 7.30 for 8 o'clock.

In order to facilitate the arrangements, members are requested to notify the Secretary, as early as possible, if it is their intention to be present.

Members may be accompanied by ladies.

Tickets (inclusive of wines, cigars, &c.): Gentlemen, £1 5s.; ladies, £1 1s.

The following prizes won during the year will be presented:—

The Manville £500 Prize	... ...	To C. H. Pixton.
The British Empire Michelin Trophy No. 1 and Cash Prize of £500	...	To S. F. Cody.
The British Empire Michelin Trophy No. 2 and Cash Prize of £400	...	To S. F. Cody.

After the Dinner there will be a musical Entertainment.

Committee Meeting.

A meeting of the Committee was held on Tuesday, the 21st inst., when there were present:—Mr. R. W. Wallace, K.C., in the Chair, Mr. Griffith Brewer, Mr. Ernest C. Bucknall, Col. J. E. Capper, C.B., R.E., Mr. G. B. Cockburn, Capt. Bertram Dickson, R.F.A., Prof. A. K. Huntington, Mr. F. K. McClean, Mr. J. T. C. Moore-Brabazon, Mr. Alec Ogilvie, Mr. Mervyn O'Gorman, Mr. C. F. Pollock, and Harold E. Perrin, Secretary.

Vacancy on the Committee.—Mr. G. B. Cockburn was unanimously elected to fill the vacancy on the Committee.

New Members.—The following new members were elected:—Capt. Oliver Barry Rupert Dickey, A.S.C., Lieut. Raymond Charles Dodgson, R.H.A., Claude Beverley Finlay, Charles Lincoln Freeston, Capt. Richard Scorer Molyneux Harrison, and Lieut. Charles A. H. Longcroft.

Military Aeroplane Competition.

A meeting of manufacturers was held at the Royal Aero Club on Tuesday last. Mr. Roger W. Wallace, K.C., Chairman of the Club, presided, and a large number of manufacturers and aviators were present, including the following:—

Handley Page (Handley Page, Ltd.), A. Arkell Hardwick (Handley Page, Ltd.), W. O. Manning (Howard T. Wright), R. Blackburn (Blackburn Aeroplane Co.), Henry Petre, Howard T. Wright (Howard T. Wright), S. F. Cody, F. May (Green Engine Co.), A. V. Roe (A. V. Roe and Co.), H. Barber, W. Ridley Prentice (Aeronautical Syndicate, Ltd.), C. H. Mocatta, T. O'B. Hubbard and B. G. Cooper (Aeronautical Society), A. Hukins (E.N.V. Motor Syndicate, Ltd.), J. T. Musgrave (Brighton-Shoreham Aerodrome), A. J. White (White and Poppe, Ltd.), Lieut. W. D. Beatty L. Howard-Flanders (Howard-Flanders and Co.), G. Blondeau (Hewlett and Blondeau), Capt. J. W. Dunne (Blair Athol Aeroplane Syndicate), D. L. Santoni (British Deperdussin Aeroplane Co.), L. Jezzi, H. L. Short (Short Bros.), Eustace Short (Short Bros.), E. W. Edwards (Walton and Edwards), G. Arthur Wingfield (Brighton-Shoreham Aerodrome), H. P. Martin (Martin and Handasyde), G. Handasyde (Martin and Handasyde), Arthur H. Sippe, T. W. K. Clarke (T. W. K. Clarke and Co.), Lieutenant-Colonel A. F. Mulliner (Mulliner, Ltd.), A. G. Leeper (Mulliner, Ltd.), J. C. Mort (New Engine Co.), Capt. H. F. Wood (Vickers, Ltd.), F. A. Barton, J. E. Anson (Wm. Mallinson and Sons), A. O. Clarke (The Horton Lyon Hydro-Aeroplane Co.), Lieut. J. C. Porte (British Deperdussin Aeroplane Co.), W. E. Moss (Whiteman and Moss), E. V. Sassoon (Universal Aviation Co.), W. E. de B. Whittaker, H. G. Burford (Humber, Limited), T. F. Woodfine (Society of Motor Manufacturers), James Radley, C. Grahame-White, John Gates, Lord Hardwicke, Capt. Loraine, Stanley Spooner, A. E. Berriman, C. G. Grey, James Valentine, G. W. Hamel, Herbert Roose, C. C. Turner, Hy. Rutter, and H. Harper.

The following Members of the Committtee of the Royal Aero Club were present:—E. C. Bucknall, Col. J. E. Capper, C.B., R.E., G. B. Cockburn, Prof. A. K. Huntington, F. K. McClean, J. T. C. Moore-Brabazon, M. O'Gorman, C. F. Pollock, Sir Chas. D. Rose, Bart., M.P., and Harold E. Perrin, Secretary.

The Chairman reported the result of the recent interview with Col. Seely, the Under Secretary of State for War, at which the latter had declared that, although he did not believe that the Government would alter their decision to throw the competition open to the world, the Government desired to give every encouragement to British manufacturers.

Several speakers advocated that a deputation of the manufacturers should wait on Col. Seely, and an unanimous resolution was passed that the Royal Aero Club be requested to endeavour to arrange such a deputation. A representative Committee was formed, comprising aeroplane manufacturers, engine manufacturers, aviators, and representatives from the Committees of the Royal Aero Club and the Aeronautical Society.

Lecture by Mr. A. E. Berriman.

On Wednesday evening, the 29th inst., at 8 o'clock, at the Royal Society of Arts, John Street, Adelphi, W.C., Mr. A. E. Berriman will read a paper on "The Efficiency of the Aeroplane."

The Royal Society of Arts has kindly placed a limited number of tickets at the disposal of the members of the Royal Aero Club, and members wishing to attend are requested to make application to the Club.

HAROLD E. PERRIN,
Secretary.

166, Piccadilly.

PROGRESS OF FLIGHT ABOUT THE COUNTRY.

NOTE.—Addresses, temporary or permanent, follow in each case the names of the clubs, where communications of our readers can be addressed direct to the Secretary. We would ask Club Secretaries in future to see that the notes regarding their Clubs reach the Editor of FLIGHT, 44, St. Martin's Lane, London, W.C., by first post Tuesday at latest.

Women's Aerial League (227, STRAND, W.C.).

A MEETING to express public disapproval of the Government's persistent action of purchasing foreign air machines for the British Army has been arranged by the Women's Aerial League to take place at the Chelsea Town Hall, on Tuesday next, the 28th inst., at 8 o'clock. The Women's Aerial League protests against the Government's decision because (*a*) it is improvident from every point of view to supply the Army and Navy with air-craft built abroad; (*b*) the sums of money expended in buying foreign machines place in the hands of foreign manufacturers greater facilities for creating even more perfect types of aeroplanes; (*c*) the French War Minister, in devising his scheme for improved types of aeroplanes, had in mind the furthering of the industry, while deriving through it every possible advantage for his department; the healthier the industry becomes, the greater the assistance to be derived from it by the State from the points of view of revenue and defence: (*d*) by buying ready-made machines we lose experience in every direction, which we should gain if we constructed them in our own workshops; (*e*) the foreign firms will derive from the Government orders a splendid advertisement at the expense of the British ones; (*f*) the Government's decision has already caused at least one British aeronautical firm to suspend business, and it may have similar effect on other firms; (*g*) the purchase of foreign machines by the Government will not really diminish the lead which other countries have in aeronautics, but will, on the contrary, tend to increase it.

All those interested from every point of view are earnestly asked to be present, and to take part in the discussion which will follow the speeches.

MODEL CLUBS.

Bath and Somerset Aero Club (11, ELM PLACE, BATH).

A MODEL aeroplane exhibition and discussion was held on Friday evining, the 17th inst., at the Church Institute, Bath, at which a good number were present, and some fine models were exhibited by the following:—Messrs. R. C. Cross, A. W. Horstmann, W. Palmer (Farman chassis of beautiful workmanship), G. Pitt (a Canard-Voisin), S. W. Weston (a Valkyrie and a Mann), and S. H. Baker (a Mann). Mr. Richard Young intimated that he would be pleased to place the use of his workshop and tools at the disposal of members of the club, and Dr. E. White announced, amid applause, his willingness to supply the club with all materials and accommodation for the building of a full-sized glider. The offer was unanimously accepted, and Mr. White promised to give a short lecture in a week or so's time on the building thereof, and at which the necessary arrangements would be made.

Birmingham Aero Club (8, FREDERICK ROAD, EDGBASTON).

OWING to the state of the weather on Saturday last it was decided not to hold any competition on the club's ground at Billesley Farm. However some splendid flying by Mr. George Mason was seen, who was using a twin-propeller model of unique design. During the afternoon the materials for the glider arrived, and the construction was then started forthwith.

Mr. B. W. Beeby, in conjunction with Mr. E. Trykle and other members, will shortly commence the construction of a glider of original design.

A small coal stove is being installed in the shed so as to provide warmth during the cold winter days, and to allow the construction of the gliders to be carried on in comfort.

Blackheath Aero Club (5, LIMESFORD ROAD, NUNHEAD, S.E.).

DESPITE the adverse weather conditions, many members got in a fair amount of practice at the Lee Aerodrome last week. On Blackheath Mr. Clark made a flight of 1,215 ft., and succeeded in obtaining his first-class certificate.

The L.C.C. have granted the club permission to fly models on the heath during stipulated hours, and members should apply to the secretary for "permits."

In addition to the first and second class tests, the committee will grant a "superior" certificate for models which will rise from the ground under their own power and fly a distance of 750 ft.

The committee hope there will be a large number of entries for the "distance" and "duration" competitions to be held at Kidbrooke, at 3 p.m., on December 2nd.

Will members please note there will be an exhibition of models at the Central Hall, Peckham, on Thursday, January 4th, 1912, at 8 p.m., and all interested in "model aviation" are invited to attend and view the numerous models which will be exhibited. These will include both "scale" and "flying" models of original designs.

The subscriptions for membership of the B.Ae.C. are 2*s.* 6*d.* per annum for seniors, and 1*s.* 6*d.* for juniors under 16, and these are due on December 1st next.

On Monday next, November 27th, Mr. Clark will give a lecture on "Aviation" at the Lucasian Club and Institute, and members who wish to attend should communicate with the hon. secretary, or Mr. Clark.

There will be the usual practice meetings this week at Blackheath, Kidbrooke, and Lee.

The committee wish to record their appreciation of the new publication, *The Principles of Flight*, just published by the proprietors of FLIGHT—it is A1.

Brighton and District Aero Club (41, PRESTON ST., BRIGHTON).

THE club, having outgrown its present workshops in Temple Street, are moving to new ones in Little Preston Street. The proprietors of Brighton-Shoreham Aerodrome have kindly allowed members to use their splendid flying ground at Shoreham. This should "buck up" those one or two slack members. Horrible weather has prevented any real flying. Messrs. Bates, Barnett, Burghope, and Von Wichmann have, between them, over a dozen new machines awaiting trials, the result of three weeks of workshop without flying. Nearly every member of the club has at least one model. Several types, besides ordinary 1-1-P 2, are being tuned up. Will the youthful member who tried to count revolutions of propeller of Lieut. Porte's Deperdussin at Shoreham by getting his nose as close to it as possible, please discontinue this practice in future. There is a revolution indicator in usual place.

Coventry Aeroplane Building Society (22, KINGSTON ROAD).

A DISTANCE competition was held on the 11th inst. at Birmingham Road. Three prizes were offered by the President, Mr. W. A. Weaver. Some excellent flying resulted in Mr. L. Ryley winning the first prize with 438 ft., Mr. T. Cobb being second, with his L.M. model, with 420 ft., and Mr. R. Rice third, with 369 ft.

Mr. Overton's O.K. monoplane made an excellent flight of 44-secs. duration, but, unfortunately, circled back to 305 ft. Mr. Austin's and Mr. Podesta's flights each terminated in a tree, plenty of which surround the ground. The judges were Messrs. Weaver, Schofield (hon. sec.), and Morton. New members are urgently required, as it is hoped to commence building the club glider very shortly. Flying every Saturday afternoon at Birmingham Road, weather permitting. All interested are welcome.

Croydon and District Aero Club (129, HIGH STREET).

A MEETING was held at Mitcham Common, on November 15th, and, in spite of a strong wind, some very good flying was witnessed. Messrs. Uwens and H. Smither did the ¼ mile. Mr. Grenfell, with a new model designed by the club, obtained a flight of over ½ a mile, which was measured and checked by members. Mr. C. Smither's machine made an excellent flight of nearly ½ mile. At one time the wind drove a model backwards for about 100 yds. before the machine would turn. Meetings are held on Mitcham Common every Wednesday.

Dundee Aero Club (3, BALTIC STREET, DUNDEE).

TO-DAY (Saturday) a competition is to be held in the Victoria Park for a prize of a silver rose-bowl, presented by Mr. Urquhart, who, in the evening, is to lecture on "Aviation" in Broughty Ferry. It is hoped to have a new glider, in course of construction, very soon now, and this should lead to more activity on the part of members. It is a pity that the weather has been against the club, making it impossible to hold the model competition every fortnight as proposed. There is plenty of room for new members, and anyone wishing to have particulars of the club should call any evening at 31, Nethergate. Great pleasure has been expressed at the success of Mr. Miles, a member, in winning a prize at the Glasgow Exhibition, for the scale model of a Hanriot machine, made from drawings which appeared in FLIGHT.

Glasgow Boy Scouts' 48th Troop Model Aero Club.

SINCE this club has been reopened for the winter session renewed activity has been shown among its members, and on Saturday night last there were no less than six new models on hand. Though the club as a body has been practically dormant during summer, their president, Scout-master J. S. Gordon, was successful in a competition arranged by S.Ae.S. Model Aero Club, and he holds the Scottish record duration flight with 53 secs. A series of lectures has been arranged, the first of which took place on the 20th, and the members

showed how keen they were on the subject of aviation by asking permission to have their club-room opened two or three nights in the week for the study of aeroplanes alone.

Liverpool Model Aero Club (39, BROOK ROAD, BOOTLE).

ON the 14th a discussion was held at the above address, when Mr. S. H. Clemence read a very interesting paper dealing with the progress of flight, and points in design. He will continue his subject further next month. A lively discussion followed, and an enjoyable evening was spent. It was decided to issue 1st and 2nd class certificates as follows:—1st, 1,000 feet straight flight, 40 seconds duration; 2nd, 500 feet straight flight, 20 seconds duration. Both tests for each certificate must be made in one day. On November 18th, Ledward and Pugh struggled against each other to obtain No. 1 of the 2nd class. Both did the duration test easily, and Pugh did 430 feet distance; Ledward nearly 400 feet, the model circling. Neither completed the tests, however, and will have to try again. Several members are nearing the completion of the 3rd class certificates, and the struggle for No. 3 of that class is keen. Two new members joined, and we appeal to all interested to come forward at once. There is no subscription until February next, when the yearly fee of 3s. will be called in. Members have the advantage of discount from accessory dealers. Flying as usual on Saturday next.

Manchester Model AeC. (40, BIGNOR STREET, CHEETHAM).

A LECTURE on marine aviation will be delivered by Mr. T. Murray in the Y.M.C.A. building, on November 29th, at 8 p.m. It is hoped that many new members will be enrolled.

Redhill and Reigate Aero Club.

AN inaugural meeting in connection with this club is to be held at the Y.M.C.A. rooms, at the top of Station Road, Redhill, on Wednesday next, the 29th inst., at 8 p.m. It is hoped that all who are interested will make an effort to attend, and further particulars can be obtained from Mr. W. H. Norton, The Cottage, Woodlands Avenue, Redhill, Surrey.

Scottish Ae.S. (Model Aero Club) (6, MCLELLAN ST., GOVAN).

THE club held a most successful flying meeting at Barrhead Aerodrome last Saturday, the weather conditions being excellent. Long-distance flying was the order of the day, some of the machines going right out of the ground. Several flights were made for the duration prize, but no one managed to do the coveted 60 secs., the nearest being 50 secs. by Mr. Gordon's model. This model will soon be applying for the old-age pension, it is of such ancient origin. Mr. Mills' new gull-shaped plane model made a brilliant flight of about 50 secs., but owing to darkness, the timekeeper could not make sure of the exact duration. The Mann-type monoplanes of Mr. Balden and Messrs. Langlands flew exceedingly well, and their performance reflects great credit on the youthful designer of the original model.

A model-flying meeting will be held at Ibrox to-day (Saturday) at 3.0 p.m. Members who do not know the ground will please meet at the main gate, Bellahouston Park, Paisley Road West. The flying ground is opposite, and will be marked by a big red kite flying overhead.

The first paper on models will be given in the Engineers' and Shipbuilders' Institute, Elmbank Crescent, on Friday, December 1st, at 8 p.m., by Mr. J. S. Gordon, whose subject will be "The Model Fuselage." The paper will be followed by a discussion. There will be no slack season with our club during the winter months, and new members are urgently wanted.

Southsea Aero Club (2, SHIRLEY ROAD, SOUTHSEA).

TWO competitions will be held next month. One will be for original ideas, and the other for scale drawings of gliders. For particulars please write the secretary. Mr. H. G. Clarke, Chartered Accountant, of London (and Southsea), has accepted the post of hon. auditor. It has been decided to enlarge the library, and gifts to it, and also towards the glider, will be gratefully accepted. If any reader of FLIGHT would like to join will he please write the secretary?

Stony Stratford & District Kite & Model Ae.C. (OLD STRATFORD).

A COMMITTEE meeting was held on November 14th at the Secretary's house when the following were present:—Messrs. Field (Chairman), Brown, H. Hamilton, Moore, Watson, the ground secretary and secretary. The draft rules drawn up by the secretary were discussed, and it was resolved to pass them as they stood, subject to power of amendment at any time. It was unanimously resolved to have the official opening of the club ground to-day (Saturday), weather permitting.

Bristol Model Flying (3, ROYAL YORK CRESCENT, CLIFTON).

A MODEL flying meeting was held on the Downs on Saturday last. The attendance was very good, and, in spite of strong wind, models of Messrs. Edgar, Howse, Brewittan, Smith, Moore, and Burrington-Ham made good flights. Edgar's 18-in. 1-1-2-P-O model flew 800 ft. in straight line. Brewittan's 1-1 E-1-P-O machine flew about 600 ft. Tivy's 42-in. 16-oz. 0-2 T-2-1 (floating tail) machine made its *debut* by rising in 8 ft. with 9-in. tractors and 3-oz. rubber. Balance incorrect, so turned somersaults. Apologies to spectators who stood too close to model.

Persons interested in aviation have still time to communicate with the secretary if willing to join low subscription club. Discussions will be held on all aspects of aviation.

Next model flying meeting on Downs to-day (Saturday) at 3.15 p.m.

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SCHOOL AERO CLUB NOTES.

By ROBERT P. GRIMMER, General Secretary, British Federation of School Aero Clubs.

I HAVE lately received quite a number of letters with regard to model flying in general, quite enough indeed to justify the devoting of this week's space almost entirely to this subject. A Felsted correspondent, writing in reference to lateral cracks appearing in the edges of his strip rubber, mentions that he employs glycerine and French chalk as a lubricant. This is probably the cause of the trouble, for glycerine, unless absolutely pure, is very injurious to rubber, while nine out of ten samples of French chalk contain grit. This question of lubricant is a veritable thorn in the side of the average model maker, for it is extremely difficult to lubricate and preserve rubber at the same time. Nearly all the brands that I have tried personally—although effective enough as regards lubricating properties—materially shortened the life of the motor, and arduous experimental work was required to discover a lubricant which, while lubricating efficiently, actually made the rubber last longer. The value of this was adequately shown in my recent demonstrations at Felixstowe, in which each motor was run for upwards of 40 miles before giving out.

A Hanwell correspondent points out to me the utility of the model as a novel means of giving firework displays, and states that on the evening of the "Glorious Fifth" he successfully employed his machine for this purpose. I quite agree with this correspondent as to the effectiveness of the idea, which I saw put into practice some time ago. The model in question was laden with a string of Chinese crackers, connected to a time fuse, the object being to demonstrate on a miniature scale the possibility of bomb-dropping. The effect was very striking, especially when the machine made an unexpected turn and showered its "bombs" over the spectators, some of whom quite failed to appreciate the humour of the situation, notably one man, who received an exploding cracker in the back of his neck. But the fireworks I am best acquainted with are the daylight ones of the star category, which result from the impact of projectile models travelling at speeds of 40 to 50 miles per hour, by which I have been struck on several occasions. On one occasion I received such an injury from the prow of a "projectiloplane" as to inspire me with an undying antipathy to machines of this class.

The same correspondent refers to the joys of model flying by moonlight. Of these again I have had personal experience, notably on one occasion when I took one of my "Mann" machines out for some final trials the night before a contest. The machine with a partial wind unexpectedly did the quarter-mile, and the moon, temporarily disappearing behind a cloud I was unable to locate the spot where the model descended. Two hours of tramping with a hired motor lamp were required to find that "Mann" monoplane, and I made a vow that nothing but the direst necessity should again tempt me to fly a racing machine by moonlight.

A third letter is from a Wimbledon correspondent, and refers to the closing of Wimbledon Common to aeromodelists. The bye-law, until lately in abeyance, is being again rigidly enforced, and the keepers have strict orders to confiscate any model that they are able to secure. Accounts seem to show that our old friend the "projectiloplane" is again the offender, a hare having been struck and injured by a high-velocity model. Still, none the less, this action of the Conservators is drastic and illiberal, and it is earnestly to be hoped that public attention will be called to the matter at an early date,

THE AERONAUTICAL SOCIETY.

VERY shortly the first election of Associate Fellows in the Aeronautical Society will take place, and it behoves all who consider that they have any claim to aeronautical engineering or scientific qualifications to send in their applications for membership forthwith, if they have not already complied with this formality.

It is necessary, under the rules, that every applicant for Associate Fellowship should first have been elected a member of the Society, and the new Council have been busy, since their own election to office, in thus augmenting the Society's roll.

Associate Fellowship of the Aeronautical Society will constitute an engineering and science degree in Aeronautics, and will be recognised as such, because the Aeronautical Society is, by signed agreement with the Royal Aero Club, the "paramount scientific authority on aeronautical matters." Incidentally, the Aeronautical Society is the oldest society of its kind in the world, and is now in its forty-fifth year, having been founded in 1866 under the Presidency of the Duke of Argyll, who was one of the greatest believers in the future of Flight.

At present there is no examination for admission to the Associate Fellowship grade beyond the eminently practical and obviously essential one that a candidate must give satisfactory evidence of his qualifications before his name, having been duly proposed and seconded, can be recommended for election. The actual election of recommended candidates rests with the Society at large, but an opposition of five per cent. of the entire membership is necessary to exclude.

In future it is quite possible that some form of set examination may be deemed desirable, possibly on the lines of that held by the Institution of Civil Engineers, but for the moment there are very few eligible men associated with either the practical engineering or pure science sides of aeronautics whose names are not sufficiently well known to all interested.

These alone are sufficient, at first, to form the nucleus of this new circle within the Society, and the influence of those whose voice is likely to carry most weight in the creation of the technical side will surely be directed towards restricting this nucleus to those having an indisputable right to admission. Any hardship on individuals resulting from such policy can only be temporary, since the names can be submitted again at the next election. It is only proper that such a course should be pursued, in deference to the difference between the constitution of all future councils and that now in office.

In future the Council of the Aeronautical Society will represent the technical and non-technical sides of the society by equal numbers—that is to say, half the Council must be Fellows or Associate Fellows. At present, all the Council are, necessarily, ordinary members of the Society; at the next general meeting they may, or may not, all be re-elected, but whoever is re-elected will, of necessity, stand either for the technical side or the general members.

Thus has provision been made for the creation and maintenance within this old and honoured institution of a section that will better enable it to hold its appointed place in modern progress, without destroying in the least the established principle on which the society has for so long existed, which is that of holding an open door to *all* who are interested in the movement.

Indeed, the expansion of the general membership is vital to the Society's prosperity, and especially so to the proper fulfilment of the highest purpose underlying the creation of the new technical side. Supported by all who desire to retain such an historic association with the past—and the foundation of the Aeronautical Society must ever redound very much to the credit of England, just as its decease would equally be an unforgivable disgrace—and by those who desire to feel in active touch with the movement, yet seek no professional advantage therefrom—the finances of the Society will not be dependent on the contributions of the technical side, and the governing body will be relieved of the embarrassment—which too frequently assails those responsible for the control of *purely* technical institutions—of having to lower the status of their degree by conferring it on all and sundry for the purpose of raising funds.

The Aeronautical Society is not in this position, owing to the existence of an already large membership, and it rests with these same members to make the Society's degrees of Fellowship and Associate Fellowship both prized and respected by all engineers and scientists who are engaged in the serious study of aeronautics.

That it will do so we see no reason to doubt. The re-organisation of the Society, which has placed its constitution in a position to put the new principle into effect, was due to internal energy, and has received unwavering internal support. Those who have not yet allied themselves to this body should, therefore, have no hesitation in at once extending it their support in the most practical way, which is by sending in an immediate application to the Secretary, 53, Victoria Street, S.W., for election at the next meeting of the Council. Incidentally, they will save the payment of an entrance fee by doing so at once.

British Attaché in the "Schwaben."

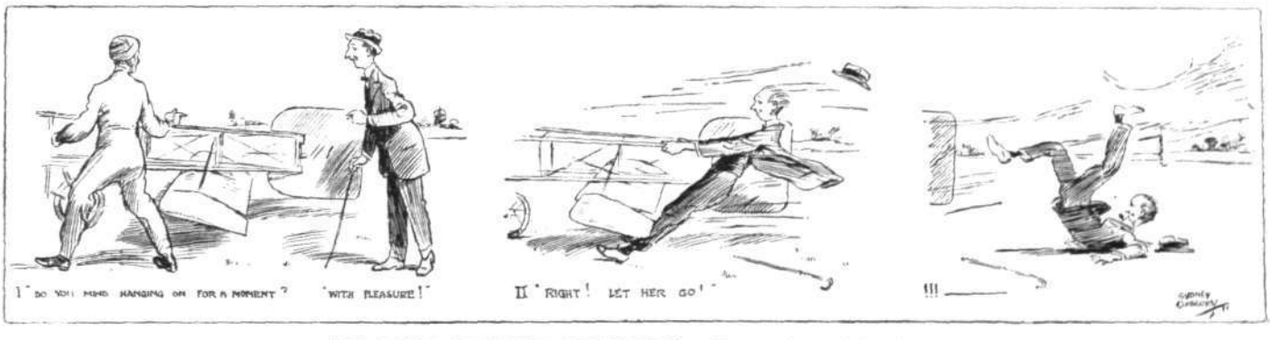
ON Wednesday of last week, the "Schwaben" made four ascents, and each time she carried a load of naval and military officers. A few days previously a number of foreign officers were taken up, including Capt. Watson, a Naval attaché to the British Embassy at Berlin.

Germany and Her Aerial Fleet.

No doubt inspired by the many long reconnoitring flights which have been carried out recently in the neighbourhood of the Franco-German frontier, the German military authorities have decided to divide the whole Empire up into districts, and to provide an aeroplane station in each. At present the military aviators are practically concentrated at the Dœberitz Camp, and the training schools will continue to be there, the officers being drafted to the other stations as they finish their course of instruction. The military authorities will ask for £450,000 in the next Budget to carry out this scheme, and it is estimated that the number of military flying machines in use by the end of next year will exceed 230.

Mishap With a Gross Dirigible.

ON the 14th inst., the Gross dirigible M1 was taken from its hangar and went over to Ossendorf, and after staying there an hour it returned to Cologne. The motor, however, was in a fractious mood, and trouble was experienced with one of the rudders, and in descending the airship collided with some telegraph posts and trees, tearing the envelope and breaking the propellers. The airship was then deflated, and will be sent back to Berlin for repairs. During the afternoon the M2 was out, and made a voyage of about an hour in the neighbourhood of Cologne.



AT THE FLYING GROUNDS.—An awkward landing.

AIR EDDIES.

SALMET'S 50-h.p. Gnome-Blériot at Hendon has undergone a temporary change as regards its landing chassis. It is now equipped with a pair of Sturgess landing wheels. Each wheel of the device consists of a pair of large concentric hoops, separated by wooden roller bearings in such a manner that the exterior hoop is free to revolve over the interior one, which latter is directly connected to the existing springing arrangements of the Blériot.

In its action it performs the function of an endless skid, and although the appearance of the device is decidedly unconventional, it has, nevertheless, many points to commend it.

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Blackburn must indeed be congratulated on the good results he has obtained from his latest passenger-carrying monoplane, a machine equipped with an air-cooled 60-h.p. Renault motor. The machine has been especially constructed for weight lifting, and, although the engine alone scales something in the neighbourhood of 400 lbs., it has no difficulty in leaving the ground after a run of about 30 yards, carrying a passenger and enough fuel for four hours.

In the matter of speed this monoplane can maintain an average of 65 miles an hour, and, when sufficiently tuned up, a process inseparable from the production of a new machine, it is expected to lift three passengers in addition to the pilot.

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I hear a report from Brooklands that Mr. Frank Ballard, the first pilot aviator to qualify at the newly-formed Spencer school, has given orders to his instructor for the construction of two machines. They are both to be biplanes, one to be of the customary engine-behind Farman type, and the other is to resemble an Avro. Mr. Humphrey K. Hitchcock, late of the Wright Company, Dayton, Ohio, is the latest arrival at this school.

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Trials have been commenced on the Piggott monoplane, in the hands of Parr at the Hendon aerodrome. This machine will be remembered as having been one of the unconventionalities at the last Aero Show at Olympia. At its first attempt it left the ground after quite a short run, and showed a terrific burst of speed. Unfortunately in landing some part of the chassis was carried away, with the result that it will be confined to its shed for a few days.

* * *

Hucks' flying at Filey during the past summer on the Blackburn monoplane, proved such an interesting feature in the programme of attractions of the district, that the townspeople decided to subscribe for a testimonial in appreciation of his work there. At the meeting of the local body who had the administration of the testimonial in hand, the question was raised as to whether Scarborough should join Filey in contributing towards it. This led to a very heated discussion, in which one member upheld the opinion that "what Filey did was Filey pure and simple," and that if Scarborough wanted to get up a testimonial they must do so on their own account. Such trouble did this cause, and so annoyed became the originator of the scheme, that I believe he decided to return to the donors all the subscriptions that had been up till then forwarded. This, no doubt, accounts for the careworn expression that Hucks has been wearing of late.

* * *

In connection with the death of Professor John J. Montgomery, of Santa Clara College, who succumbed on October 31st to injuries received while conducting further experiments with his gliders, it is interesting to recall that his double monoplane glider was, according to his claim, the first in the country to employ wing warping on cambered surfaces. With this glider he met with a tremendous amount of success, and during the year 1905 glides of long duration from various heights up to 4,000 feet were made. Despite the fact that so much success was attained with this machine, all attempts to equip it with propeller and power plant during the past few years have failed. It is extremely sad to think that the work of such a clever pioneer should have been cut short by a fall from a height of only 20 feet.

* * *

It is a great compliment to British constructors, and the Avro firm in particular, that Mr. J. R. Duigan, after carrying out a tour of inspection round all the British and Continental flying grounds, in search of a machine combining the qualities of efficiency, safety, and portability, should decide on investing in a biplane, the production of the firm mentioned. Duigan's work in Australia is very analogous to that of Cody in England, for they both designed, built, and carried out extensive flights with their respective biplanes, without having previously seen an aeroplane in flight.

* * *

A curious accident occurred to an aviator named Schneider some time since at the Nassau Boulevard Aerodrome, New York. Mechanics who were holding the tail apparently mistook a gesture from Schneider, who was in the pilot's seat, and released their hold. Schneider, unprepared for the sudden start, dashed into a biplane on the ground and chopped a considerable portion off the *cellule*. Continuing his erratic course, he crashed into Sopwith's shed, his front elevator forcibly gaining an admittance through the closed doors.

* * *

I learn from America that the Burgess Co. and Curtis, following on the success which attended the fitting of a Gnome engine in the Burgess-Wright biplane belonging to Mr. Sopwith, have decided to fit up a similar machine with one of the new Hendee rotary motors. It will be interesting to hear the result.

"OISEAU BLEU."

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The Hydro-Aeroplane at Barrow.

HAVING completed certain improvements and modifications to the Avro hydro-aeroplane, Commander Schwann was testing it over the Cavendish Dock on Saturday last, and attained a small measure of success, although unfortunately, when everything appeared to be going well, the machine was capsized through being caught sideways by a gust of wind, when flying at a height of between 20 and 25 ft. Some damage was done to the main planes, and also to the floats.

The Burgess-Wright Hydro-Aeroplane.

BOTH the Burgess and Curtiss Companies appear to be achieving considerable successes in America with their hydro-aeroplanes. The first named have been making flights in the Marblehead Harbour, the machine being a Wright biplane built by the Burgess Company and Curtis mounted on two hydroplane floats, designed by W. Starling Burgess, the yacht builder. Each hydroplane has two steps, the middle step being halfway back from the bow. The floats are 14 ft. long by 2 ft. wide, narrowing somewhat towards the bottom, and 10 ins. deep. The pair of them add about 100 lbs. to the weight of the machine. Each one is designed to carry a weight of 1,000 lbs. During the trials the machine has been piloted by Mr. Burgess himself, and Messrs. Clifford Webster and Ward Page. Several passengers have been taken for trips over the harbour, one lady, Mrs. Frank G. Macomber, being up for a quarter of an hour.

The U.S. Navy's Curtiss "Triad."

THE Curtiss "Triad" was put through its paces over the waters of Chesapeake Bay, by Lieut. T. G. Ellyson and Lieut. G. H. Towers on October 25, when they covered 145 miles in 147 minutes. They made their start from the naval aviation school at Annapolis and landed at Buckroe Beach, Va., 3 miles from Fort Monroe, the route being down Chesapeake Bay. This trip was instructive in emphasising the importance of the value of having double control fitted, as, owing to the intense cold, it became almost impossible for a single pilot to steer the whole time. The machine was controlled therefore first by one and then by the other. Lieut. Ellyson, in writing to Glenn H. Curtiss, gives the following details of his flight: "I steered for the first half hour and then Towers steered for the same length of time At the end of an hour the water connections on top of the radiator began to leak and water went on the magneto, causing the engine to miss. Towers climbed over and repaired the leak the best he could, and had to hold the water pipe in place, which he did for over an hour while I drove. After two hours of flying, having covered about 147 miles, the oil gauge seemed to be getting low and we decided to land. This we accomplished in a 6-ft. surf with a 20-mile wind behind us. I ran the machine high on the beach, coming in at full speed, just touching the crests of the waves. Much to our surprise the boat was not injured in the least."

FOREIGN AVIATION NEWS.

Vedrines Tries a Breguet.

AT Rheims, on Wednesday morning, Vedrines, forsaking his monoplane for the nonce, mounted one of the military-type Breguet biplanes, fitted with a 120-h.p. Dansette-Gillette engine, and succeeded in attaining a speed of 120 k.p.h.

King of Servia at St. Cyr.

ON Saturday last the King of Servia, with President Fallières and General Roques paid a visit to St. Cyr, and although the weather was unsuitable for flying, Lieut. Battine on his Farman and Captain Bellenger on his Blériot made flights for the entertainment of the Royal guests. The King handed Captain Bellenger, on his descent, the Cross of a Chevalier of the Order of the White Eagle.

At the Nieuport Montpellier School.

VERY good progress has been made by the Nieuport winter school at Montpellier, and on Monday, Helen, the Michelin Cup winner, paid a visit and performed some good flights, taking up several passengers, and making a trip over the town. Chevalier, the chief pilot, also put in a good deal of practice during the afternoon.

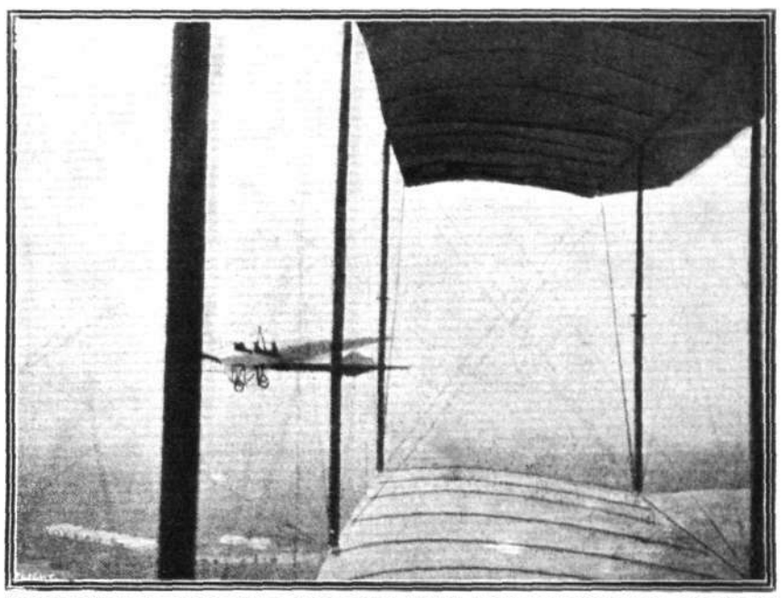
Rheims to Buc on an Aeroplane.

HAVING finished his work in connection with the military competition, Renaux, on his Maurice Farman biplane, accompanied by his friend Senouque and by his wife, on Wednesday of last week succeeded in flying from Rheims to the Maurice Farman headquarters at Buc.

Aerial Visitors at Juvisy.

ON the 15th inst. Chevillard, on a Farman biplane, with Denhaut and the Prince de Nissole, flew from Juvisy to Etampes, while Naval Lieut. Cayla, also on a Farman biplane, went from Buc to Juvisy, and returned in company with Lieut. Parasa.

Prevost, who, on a Deperdussin monoplane, made second best time in the final cross-country test for the French Military Competition.



AN INCIDENT DURING THE RECENT JOHANNISTHAL FLYING WEEK.—Photograph taken from Pietschker's aeroplane, before he met with his death, of the Johannisthal aerodrome and of Miss Melli Beese flying on her aeroplane.

A Goupy Superior Pilot.

FLYING over a course from St. Cyr to Chartres and back, Lieut. d'Aiguillon, on a Goupy biplane, successfully made his qualifying flights for a superior military *brevet*.

A Borel Superior Pilot.

AT the Borel School, at Vidamee, on a Paris-Madrid type Borel-Morane monoplane, on the 17th inst., Lieut. Gaubert passed his third test for the superior *brevet*. Starting from Vidamee, he passed Noyon, and followed the valley of the Oise to Compiegne. He was enveloped for some time in a bank of cloud at a height of about 1,200 metres, and when he came down at Vidamee, after his trip of about 120 kiloms., it was getting quite dark.

Cross-Country Flying in Germany.

ON Monday, Suvelack, on his Etrich monoplane, set out to fly from Dresden to Berlin, but he found the wind very trying indeed, and, after being in the air for 40 mins., decided to abandon the trip and await more favourable weather.

A Berlin Aviation Show.

THE Imperial Aero and Automobile Clubs of Germany, working in conjunction with the German Aeroplane Manufacturers' Society, have decided to hold an aviation exhibition at Berlin from April 3rd to the 14th next year. There will be sections devoted to aeroplanes, dirigibles, motors, and propellers, raw materials and parts, models and designs, instruments and maps, history, &c.

Long Flights by German Military Officers.

ON November 15 at Johannisthal Lieut. Krieger was flying for 3 hrs. 9 mins. without a stop, and Lieuts. Braun and Scanzoni flew from Berlin to Stettin, a distance of 180 kiloms., without a stop.

A German Aviator Killed.

AFTER making a brilliant flight round Berlin and also setting up a new German passenger record, taking two passengers up to a height of 730 metres, Joseph Pietschker was killed at Johannisthal on the 15th inst. while testing a monoplane which he had designed himself. After only flying for a few minutes the machine was seen to suddenly dip and fall from a height of 25 metres, the pilot being thrown out and killed through his neck being broken.

More Aeroplanes for Tripoli.

IN view of the success attained by the Italian airmen at Tripoli, the Italian Government have decided to send two more aeroplane sections to the front. The second section will consist of Maniserro (Blériot), Verona (Blériot), Maffei (Blériot), and Dal Mistre (Deperdussin). The third section will consist of Cagno (Farman), Ruggerone (H. Farman), Cavalieri (H. Farman), and Rossi (Blériot). The first section which consists of Captain Plazza, Captain Moizo, Major Falchi, Lieut. Rossi and Lieut. Gavotti, have at their disposal two Blériots, two Etrichs, two H. Farmans and three Nieuports.

A Voisin Canard on the Black Sea.

PRINCE BIBESCO has now taken his Voisin hydro-aeroplane to Kustendje, where with Lieut. Istrati he has carried our several short flights over the Black Sea.

Flying in Roumania.

QUITE a lot of flying is being done in Roumania since Prince Bibesco went home. On the 11th inst., Vlaicu started from Bucharest to fly to Rustchuk, but not knowing his way he got too far to the east and landed at Oltenitza, from whence he was able to fly back to the Cotroceni flying ground at Bucharest. On the following day he made a fresh start, and had only got about 25 kiloms. on his way when he had to land at Kalutareni, where he was delayed while repairing a wheel which had been damaged in landing. Afterwards, however, he was able to fly back to his headquarters. On the 11th inst., two pupils of Prince Bibesco—Lieuts. Capsa and Zorileanu—set out to fly the 80 kiloms. to Tergovishtea on a Blériot. With a strong wind behind them they made the journey in three-quarters of an hour, and on the following day they flew back in 55 minutes.

Military Flying in Roumania.

ON the 4th inst., Lieuts. Protopopescu and Negrescu, on their Henry Farman machines, set out from Bucharest to fly the 364 kiloms. to Turnu Severin, on the Servian frontier. Lieut. Negrescu got as far as Sviniseshei and then had to come down for petrol. On the following day he got on to Krajova, after making a stop of five minutes at Karakal. Lieut. Protopopescu took a more northerly course and his first landing was at Slatina after flying 189 kiloms. He finished the first stage to Krajova on the following day, doing the 61 kiloms. in 30 minutes. The next day he easily completed the final stage to Turnu Severin. On November 10 he started back for Bucharest. His first stop was at Rogova, 84 kiloms., and the next day saw him arriving at Krajova, while the same afternoon he got on as far as Slatina. The very bad weather then delayed him over the last stage of the journey, but he landed in the twilight on the Cotroceni ground at Bucharest on November 13.

The Aero Club of America's Growth.

THE membership of the Ae.C.A. is announced as having increased from 390 to 540 during the past year, and the affiliated clubs now number 24. Pilot certificates have increased from 26 on October 31 last year to 74 on the same date in 1911.

The National Council of the Ae.C.A., which has for some time been practically extinct, has now been finally and formally done away with.

A Three Hours' Flight.

ON October 25, at Nassau Boulevard Aerodrome, in America, Ladis-Lewkowicz was in the air on a Queen monoplane for nearly three hours. During his flight he passed over the surrounding country of Long Island, going to Hicksville and Jamaica on different occasions, and he only finally descended when he found that his fuel tank was emptied.

To Fly Across South America.

ALTHOUGH he was not successful in his effort to fly across the United States, Harry Atwood announces that he will shortly make an attempt to fly across the South American Continent for a prize of £20,000. He will start on the north coast of Brazil and fly down to Buenos Aires along the coast, touching at Bahia, Rio de Janeiro and Monte Video. From Buenos Aires he will fly across the Continent to Valparaiso, crossing the Andes on the way.

Long Flight in Australia.

ON Saturday, Mr. Hart, who it is claimed was the first Australian to secure a pilot's certificate, flew on his biplane from Penrith to Sydney, a distance of 40 miles, in 65 minutes.

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MODEL AEROPLANE PERFORMANCES.

RULES AND REGULATIONS FOR THE REGISTRATION OF MODEL AEROPLANES FOR THE PURPOSE OF ESTABLISHING RECORDS.

As recently announced, the Kite and Model Aeroplane Association have been for the year 1912 appointed by the Royal Aero Club as the paramount body in this country to govern model aeroplanes. As a consequence, the Council have drawn up a set of regulations for the purpose of officially registering record performances in connection with models. These we publish below in full, and copies of them, together with application forms for competitors' use, can be obtained on application to the Secretary of the Association at 27, Victory Road, Wimbledon.

The Council of the Association is drawing attention to the facilities for affiliation with themselves, in order that the whole of the model bodies may co-operate with the Association in registering the performances of the models. Observers will be appointed in various districts, those for the London district being: Major B. Baden-Powell, Messrs. T. W. K. Clarke, A.M.I.C.E., T. O'B. Hubbard, J. H. Ledeboer, M.A., H. F. Lloyd, G. P. Bragg-Smith, E. W. Twining and W. H. Akehurst (Hon. Sec.).

Secretaries of model clubs should therefore procure from the Association the terms upon which affiliation can be carried out.

The Regulations.

1. Only performances of model aeroplanes made in the presence of at least two official observers, appointed by the Association, shall be registered and qualify for records.

2. Owners of models who desire the Association to appoint observers of performances of their models, and to register particulars in connection therewith, must make an application on the form provided and forward it to the hon. secretary, together with the necessary fee.

3. In the London district the Association shall appoint, for one or more Saturdays in each month, suitable grounds on which flights can be observed. Notification of the grounds will be made one calendar month in advance of the date.

4. An application fee of 1*s.* (in each class of record; see Rule No. 8) will be charged members, and must accompany the application. Non-members, 2*s.* The application fee includes a certificate of the performance.

5. A copy of any certificate for a performance duly observed and registered by the Association may be obtained from the hon. secretary, on payment of a fee of 6*d.*

6. All applications must be made two clear weeks in advance of the date fixed for the proposed flight.

7. Two records are recognised for the present, each record being divided into two classes:—

(1) *Duration.*—(*a*) Hand launched; (*b*) Rising from the ground.

(2) *Distance.*—(*a*) Hand launched; (*b*) Rising from the ground.

8. Three successive trials will be allowed for each attempt on any record or class of record.

9. All performances for records for distance will be measured in units of 1 yard, the duration and wind velocity will be measured, and deduction made for the speed of the wind.

10. The applicant may launch with or against the wind in starting as he prefers, but the distance will be measured in accordance with Rule 3 of the Association.

11. The observers shall time the model from time of starting to time of landing, or till it finally disappears from their view.

12. The Association will, on application, appoint and send observers to any model meeting, but if outside of any district for which official observers have been appointed, their travelling expenses must be paid by the promoters of such meeting.

13. In all tests the observers must use an approved anemometer or registering the wind velocity. The necessary appliances and instruments will be supplied or must be approved by the Association or its observers, and must include a measuring line, two stop-watches, anemometer, scales, and a roll of lino for starting from the ground (if desired).

14. The Association will not be responsible for any damage done by or to the models, but it is imperative that all models be fitted with a protector over the motor rod, such as a wire or cane loop.

FLIGHT

THE FIRST "AEROCAR."

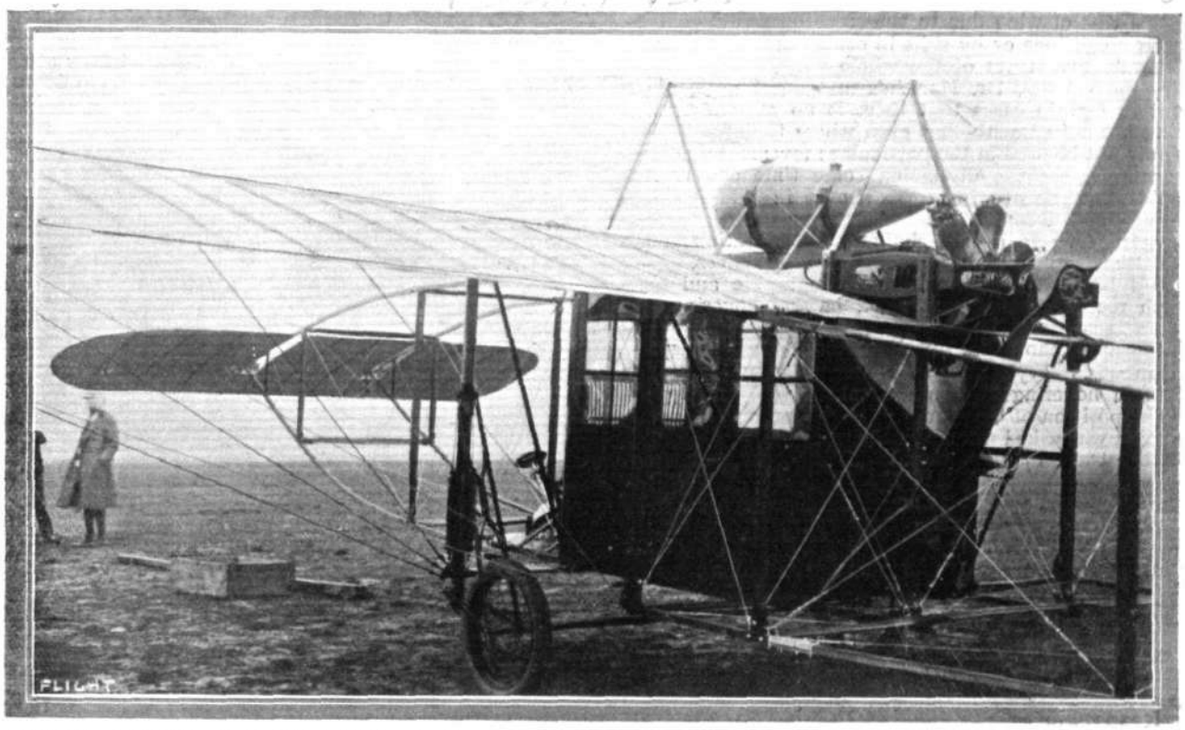
THE Blériot workshops have just turned out a machine which marks a distinct point in construction and to which previous reference has been made in these pages. Built to the order of M. Henri Deutsch de la Meurthe, it is the first passenger-carrying aeroplane to be constructed in which the comfort of the human complement has been taken into serious consideration.

In this respect it signifies the commencement of a new era in aeroplane construction.

The passengers are comfortably accommodated in a side-entrance body, built by Rothchild, which is provided with mica windows in front and on either side, in order to afford to its occupants a good view of the country over which the machine is passing. Its interior is padded with pneumatic cushions for the purpose of protecting the passengers should a rough landing be made. The pilot maintains control of the monoplane by means by a regulation Blériot *cloche* and foot bar from his seat on the platform extending in front of the body, and to his left is a space which can be utilized either for the purpose of accommodating a mechanic or personal attendant, or for packing luggage. To facilitate communication between passengers and pilot, a speaking tube, similar to those in use on taxis, is fitted. The landing chassis is of the customary Blériot type, and it is further interesting to notice that the control of the machine's elevation has been entrusted to a front elevator, which is not connected with a plane working in inverse conjunction at the tail, as is usually the case when an organ of this description is employed.

It will be remembered that the experimental 100 h.p. monoplane built a few months ago by Blériot with the object of providing data for the construction of the machine at present under consideration, made use of a method of wing bracing very much analogous to that of the Etrich. This has been abandoned and triangulation of the wings by stout steel cable resorted to.

As can be seen in the accompanying photograph, both the motor, a Gnome of 100-h.p., and the fuel tanks are arranged above and to the rear of the body, a disposition which, we must admit, savours a little too much of the Sword of Damocles to be to our liking.



M. Deutsch de la Meurthe's Blériot "Berline" aeroplane, showing the suspension of the car body part of the machine and the disposition of the Gnome motor, petrol tank, &c. The pilot sits in front of the enclosed body, the *cloche* being seen in our photograph just projecting forward. Note the special stabiliser fitted to this machine.

The wings span 43 ft. from tip to tip, and the overall length of the machine is 46 ft. Ready for flight, but without its human load, the monoplane weighs 1,540 lbs.

Although allowances must be made for the fact that the Blériot aerocar is still more or less in the experimental stage, it is curious that so little attention has been paid to the reduction of head resistance, for the odd 20 sq. ft. of plane surface, represented by the front of the body, presented normally to a relative wind velocity of approximately 50 miles per hour, must surely result in an enormous and unnecessary waste of power. The machine is at present at Etampes, and its preliminary trials are expected to take place shortly.

BALLOON RECORDS BROKEN.

DURING the very windy weather at the beginning of this month several attempts were made from France to beat the world's duration record for balloons. On the 5th inst., the balloon "Picardie II" (2,200 metres), having on board MM. Bienamie and Rumpelmeyer, started away from Lamotte-Breuil. They soon covered the north-eastern portion of France, and then, being driven on at a fair speed, they crossed Germany. Passing the coast they floated over the Baltic for six hours, and eventually sighted the Russian coast by Riga. There, making their way inland, they came down at Alt Samken, in the province of Riga, after being in the air for 16 hours and covering a distance of 1,700 kiloms.

In the evening of the 6th inst., MM. A. Schelcher and H. Lievin, in the balloon "L'Excelsior" (1,600 metres), left Lamotte-Breuil, and taking a westerly course reached Szlabings, near Iglau, in Moravia, having covered 1,100 kiloms. in a little over 16 hours. Also at 3 o'clock on the 6th inst., MM. de Francia and Destreicher rose from St. Cloud in their balloon "La Mouche II" (1,850 metres), and after a 24-hour journey they landed among the Carpathians, at Kereszt, in Hungary, a distance of 1,500 kiloms. from Paris. Both the "Picardie II" and "La Mouche II" were competing for the Lahm Cup, and the former was also entered for the Lamotte-Breuil Cup. The "L'Excelsior" was attempting a record for the Ville de Paris Prize.

CORRESPONDENCE.

**** *The name and address of the writer (not necessarily for publication)* MUST *in all cases accompany letters intended for insertion, or containing queries.*

Correspondents communicating with regard to letters which have appeared in FLIGHT, would much facilitate ready reference by quoting the number of each letter.

Dr. Hankin's Study of Flight.

[1426] In the observation of bird flight I have noticed a common error—from which as far as I can see Dr. Hankin is exempt, although he makes no explicit observation on the point—and that is the confusion of movements of feathers and flexible tips of wing due to the air reactions caused by varying air conditions or by shift in centre of gravity, or by some general movements of the whole wing. With actual voluntary movements, Dr. Hankin's method, I notice, is to point out in certain cases that there is no muscle capable of making the adjustment—but even where the muscle does exist it may not be used in the particular movement watched.

For example, see the discussion some time ago on the very rapid vibration of wing edges shown in gliding birds by cinematograph records.

It is quite easy to obtain similar edge vibrations on a lifeless glider with flexible resistances or trailing edges.

It would be interesting to take photographic and cinematograph records of *pet* birds (*e.g.*, hawks) hovering and rising.

An interesting photo on this line forms the frontispiece to this month's *Fry's Magazine*—representing a seagull stopping and hovering in order to take food from a girl's hand. The position of the wing tips is to be noticed.

A question was asked at an aviation meeting which affords both an illustration and a moral. A well-educated friend of mine was watching the late Mr. Grace flying over our heads in a Farman biplane. The tail fabric was a bit loose and saggy, and kept vibrating fully and rapidly as the machine passed over us. My friend turned to me and asked, "How is the engine joined up to make the tail work that way?" My answer was that the only junction was by means of the air, and that it was the vibrating air that moved the tail fabric, not any direct mechanical connection.

Dublin. M. D.

Responsible and Irresponsible Writers.

[1427] It is not my intention to engage in a "wordy journalistic warfare," but I hope you will allow me space for a very brief reply to your article under the above title. But, in the first place, may I commend your desire to be fair, which takes the excellent form of publishing the whole of my reply, together with the original paragraph and your own comments.

I still fail to see that the Club's official notice, published on September 16, has the slightest bearing on the issue, which is simply what appeared in your editorial note on October 21.

There is no justification for your remark that I appear to question the competence of the Club to issue whatever certificates it likes; for I expressly state—as your own quotation shows, that "there is no reason why the Club should not issue any number of particular certificates." Also that I approve, in principle, of the advanced certificate. —[*See remark below—ED.]

But I did say, and I still say, that it is not right to speak of the Club "deciding to retain for the present the examination for what we have called the elementary certificate." Of course, the Club cannot decide anything of the kind; it has got to retain it until the Federation alter it.

"THE WRITER IN *The Field*."

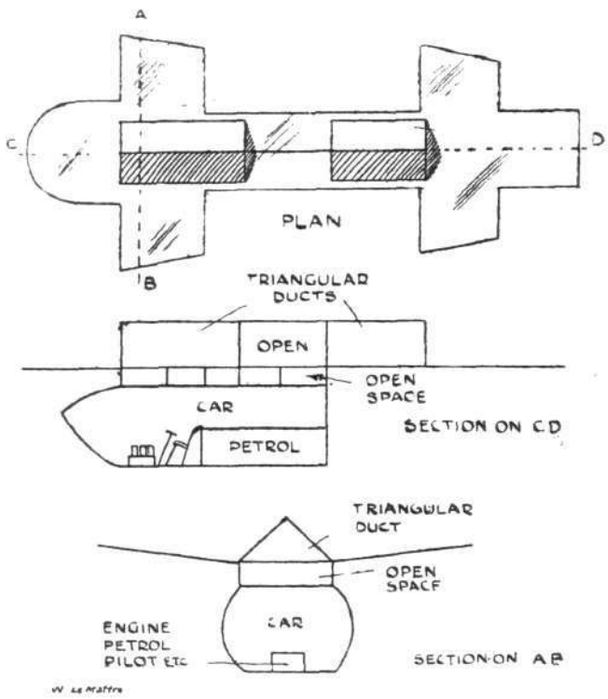
[In regard to our critic failing to see that the Club's official notice, published on September 16, has the slightest bearing on the issue, we can only say we are sorry for him.

* These paragraphs only appeared in the second criticism of our editorial remarks, after our protest to the Editor of *The Field*, and when our critic had realised the wrong premises upon which his original criticism was based, viz., that the Club had no power to issue any certificate other than the elementary certificate in force as approved by the Federation.

This "incident" is now closed.—ED.]

Natural Stability.

[1428] My patent was probably not cited against Mr. Booth (1417) as the box kite, or, as I specified it, "triangular duct," is only one of several devices employed in my design to ensure stability. The duct, naturally, does not appear in the plan of the plane kindly published by you last year, but it is plainly evident in the accompanying sections taken from the specification of the patent. If Mr. Booth's design is able to recover its balance when placed as he shows it, edge down, it will be sufficiently evident that my design cannot possibly remain in any such position an instant owing to the weight of the pilot, engine, fuel, &c., on the floor of the car. I am pleased to note that the same idea appears in the machine



shown by Messrs. Faber and Arnold, and I am quite confident that in this direction lies the long sought for "Naturally stable machine." When writing to you some two years ago I remarked that it was quite possible I should some day find myself, much to my astonishment, among the orthodox, and it appears that that day is rapidly approaching. I wish Mr. Booth the best of luck in the "interview" he regards with such hopeful enthusiasm, but— Well, perhaps I am better acquainted than he with the ways of companies and Government Departments, and have grown pessimistic. I may say that I have taken a 2-ft. model of my machine, up 30 ft. high, in all sorts of winds, and flung it off tail first, head first, and any other way, but I have never found it upset under any circumstances.

Maida Vale. W. LE MAITRE.

[1429] Referring to my letter in the last issue of FLIGHT numbered 1423, I should be much obliged if you will kindly make the following correction:—The 16th line should read, viz., "long ago as 1897 in Tataramaka, Omata, and Puniho, County of Taranaki," not "Talaramaka, Omata, and Puniho, County of Tavanaki." I must apologise if the writing in my letter was illegible.

Muswell Hill. C. W. BECKMANN.

Redivalls' Monoplane and Natural Stability.

[1430] I was interested to note Messrs. Forbes and Arnold's letter and photos in the issue of FLIGHT, November 11th, 1911. They may be interested to know that their planes bear a marked resemblance to Herr Röttge's patent No. 27892, 1909. Also, although the latter's English application postdates theirs, his German application antedates

it by thirteen days. Of course under the International Patent Laws Convention the date of the German application is also the legal date of the English patent. I duly kept my appointment with the managing director of a famous aeronautical company, as foreshadowed in my letter of above date. I gave two demonstrations.

1st. I held my model vertically laterally (*i.e.*, entirely capsized), and launched it without power in a gentle glide.

Result: Model righted itself in falling and fell horizontally.

2nd. I wound the two 8-in. propellers 250 turns each and launched my model as above.

Result: Model very quickly righted itself and flew along perfectly stable.

The managing director remarked that he was afraid that the irregular diamond centres of my model would offer resistance in a full-size machine which he could not afford under his present power. He was afraid that he would not be able to fly with a passenger, as he had as much as he could do to rise with one now! I pointed out that if my device meant extra resistance, then it would give increased lift, which would allow him to decrease the size of his planes proportionately. He further remarked that he was afraid my device would not have the same effect on a full-size machine, owing to the conditions being so different. He therefore could not see his way to give my device a trial.

An aviator present during my demonstrations, however, remarked in conversation afterwards that he did not see why my device should not be tried on a full-size machine, and that he would like to see it tried very much. My visit, therefore, was a further encouragement to proceed with my demonstrations. If I can convince *aviators* that my device is worthy of a trial then no doubt it will be tried sooner or later. Also *re* power, your readers will be interested to know that my model flew with 8-in. propellers and eight strands only of strip elastic a side. As my model weighs 7½ ozs. and planes are 30 ins. by 6 ins. and 15 ins. by 5½ ins., they will no doubt agree with me that I flew it with very low power indeed.

WILL H. BOOTH (REDIVALLS).

"A Quaintly-Conceived Scheme."

The Editor begs to acknowledge with thanks the large number of letters from various correspondents in connection with the letter upon this matter which appeared in last week's issue of FLIGHT. Whilst fully appreciating the sentiments expressed in these, the Editor hardly thinks there is any necessity to pursue this matter further.

Nottingham Model Aero Club.

[1431] I notice in FLIGHT, under Correspondence, that a Nottingham reader enquires whether there is a model club in this district. If he will communicate with me I shall be pleased to furnish him and all others with full particulars of the above club.

Central Avenue, Nottingham. D. E. BARCLAY, Secretary.

Aviation in Nottingham.

[1432] Having been a reader of your paper ever since the first issue, I have noticed enthusiasts in Nottingham have written to you regarding model and full-sized Aero Club for this city and district. For instance, about two and a-half years ago a very well-known Nottingham resident published in your paper that he would like all those interested in this district to communicate with him with the intention of forming such a club in Nottingham. I wrote this gentleman four times and never received an answer, nor have I heard any more about the formation of the club. I might also say that we have built our own machine, which cost just under £600, which is fitted with a 30-horse-power Alvaston motor (photo enclosed), and have spent shillings in advertising that we are prepared to assist in forming an Aero Club for this district, to try and create interest, and it could not have escaped the eye or the ear of those interested, and as our machine has been on exhibition twice in this town, once for a month and once for a week, now we think we have done our share toward the organising of an Aero Club in Nottingham, but still not downhearted we have managed to get 15 names for such an organisation and shall be pleased to hear from the Nottingham reader that wrote to your paper last week or anyone else interested.

We intend putting our machine in the hands of the members as soon as they prove proficient on the glider which we are about to construct.

SEARBY, ALLEN AND SEARBY.

Hartley Road, Nottingham.

Balancers.

[1433] With reference to Mr. Newton's letter, No. 1378, in your issue of October 7, 1911, in which he invites discussion on the advisability of operating balancers in such a manner that their angle of incidence is negative, *i.e.*, *below* the line of flight, by tipping their rear edge up or their leading edge down, instead of giving the balancer on the other side of the machine a positive angle of incidence *above* the line of flight, I am convinced that the former is the correct method of using balancers, and that it is quite possible that many accidents have occurred through this principle not yet having been adopted.

It was first, so far as I am aware, explained in my patent, No. 6642, of March 16, 1910, and was afterwards referred to in my article published in your issue of June 24, 1911.

It is now over 18 months since the patent specification was written, and now that other investigators are beginning to see the necessity for some change in the present methods of balancing laterally it may be useful to thus refer to my earlier note on the subject. I am building my own aeroplane in such a manner as to utilise the idea. This particular patent I took out in England only, as I considered it less valuable than the one for automatic lateral stability by means of flexible training planes with outer fixed edges as described in the article referred to above, and for which I took out patents in several countries.

The great advantage of giving a negative angle of incidence, *i.e.*, a downward dip to a balancer, is that the drag which must accompany either a positive or negative angle of incidence is in this case applied on the side of the machine which it is advantageous to retard, *i.e.*, on the side which was too high before the balancer was operated. The action of depressing may be applied in front of, or behind, or in line with the centre of gravity of the aeroplane, and if it is applied behind, as is the case in the model, a plan of which was published in my article in your issue of June 24, 1911, any slight tendency for the head of the machine to rise more

The Nottingham monoplane.

than is desirable during the application of the balancer can be corrected by an application of the elevator. In the drawing attached to my patent specification the balancers are placed in such a position that no such correction would be needed, assuming that the centre of gravity of the aeroplane is situated about one-third of the width of the main plane behind the front edge of the plane, but I am not prepared to assert that this will always be found to be the most advantageous position for them.

H. S. WILDEBLOOD, M.I.C.E.

Lucknow, India, November 1, 1911.

Wing Form.

[1434] Can any reader give me a formula or rule for calculating a wing of varying curve, to give the centre of pressure a fixed position irrespective of speed and angle at which the machine is flying? This is, I believe, the principle of Weiss and Etrich machines, and is obtained by varying the camber of the planes which sweep backwards and at their tips have a reversed camber. I thought that by this time some expert may have worked out a formula for the curve, as to distance from leading edge, &c., the C. of P. will move "about." I wish to replace the ordinary type Blériot wing, if there is a possible chance of satisfactory flight.

F. A. G. N.

The Coanda "Turbo-Propulseur."

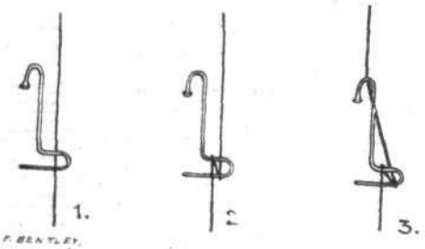
[1435] Could any of the readers of your valuable paper give me any information about the Coanda "Turbo-propulseur," which was used by Henri Coanda on his biplane shown at the Paris Show, and by the Gregoire Company on some motor sleighs? I am very anxious to obtain one of the above, new or secondhand. Were any "turbo-propulseurs" ever tried out, if so with what results. I might say that I wrote to the Coanda Company, but received no reply. I can assure you that I will greatly appreciate any information.

133, Front Street, New York, U.S.A. R. TIMBERLAKE.

MODELS.

Wire Strainers.

[1436] I enclose sketches of a very small and light wire strainer for use on models made from an ordinary pin, about 1 in. long, which was designed by a friend of mine. The pin is first hooked



over the wire (diagram No. 1), and then turned round until wire is sufficiently tight (diagram No. 2), and finally, to secure all, the second hook is hooked over the wire (diagram No. 3).

Nottingham. FRANK S. BENTLEY.

"Flying Sticks" and "Freaks."

[1437] After perusing a number of Mr. R. F. Mann's letters, I am in doubt as to what type of model Mr. Mann would apply the terms "flying sticks" and "freaks" to, as though he obviously refers to machines built with the object of winning competitions, the facts of the case hardly seem to bear out this statement. Take, for instance, the open competitions promoted by our leading model club, the Kite and Model Aeroplane Association, at many of which Mr. Mann has himself competed. Those at which I have been present during the past year have been won by machines designed by Mr. Bragg-Smith, Mr. Twining, Messrs. Weston-Hurlin, Ridley, myself and a gentleman whose name has slipped my memory, but who is affectionately alluded to by his friends as "Mack."

These being competition winners, some portion of them at least, according to Mr. Mann, should be "freaks," but does Mr. Mann seriously imply that any one of these machines is more of a "freak" than his own? If he does not so imply, it is obvious that his crusade against competition-winning "freaks" and "flying sticks" is really tilting at very mythical windmills.

GEORGE ROWLANDS.

[1438] *Re* Mr. Jones' remarks (1413) in FLIGHT, I should like to say that I have been experimenting with models for more than two years now, and am quite well aware of the fact that there are two distinct branches of model flying, and had no intention of confusing same, and had Mr. Mann borne this in mind he would not have made such an unreasonable challenge on an engined model. What I intended to infer was that while I agree that an elastic-driven model is very instructive, I am of the opinion that the constant-power model is of very much more practical value. Through a slight error on my part or the printer's the claims of my model seem rather ridiculous. My model is driven with 2 (two) propellers of 8 in. dia., each provided with 4 strands o elastic. I may say that it flies best with this amount of elastic, and very often it remains aloft until all the turns are run off the elastic. In model flying I found the greatest joy and interest in economising power and minimising resistance. I have only one answer for those who argue that a model's value as an instructive apparatus is not retarded and not made more a toy by providing it with too much power. What I say is that anything under the sun will fly regardless of its shape or form if it has sufficient power.

BUITRE.

Aeronautical Patents Published.

Applied for in 1911.

Published November 23rd, 1911.

344. L. BLÉRIOT. Aeroplanes.
5,666. A. ZELLWEGER. Registering the course of air-craft.
5,702. D. L. A. GROSCLAUDE Dirigible balloons.
6,750. R. ESNAULT-PELTERIE. Elastically mounting-wings of monoplane for automatic stability.
10,001. M. RAABE. Automatic stabiliser.
16,137. L. C. BREGUET. Aeroplanes.
16,635. A PHILLIPPE. Dirigible balloons.

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